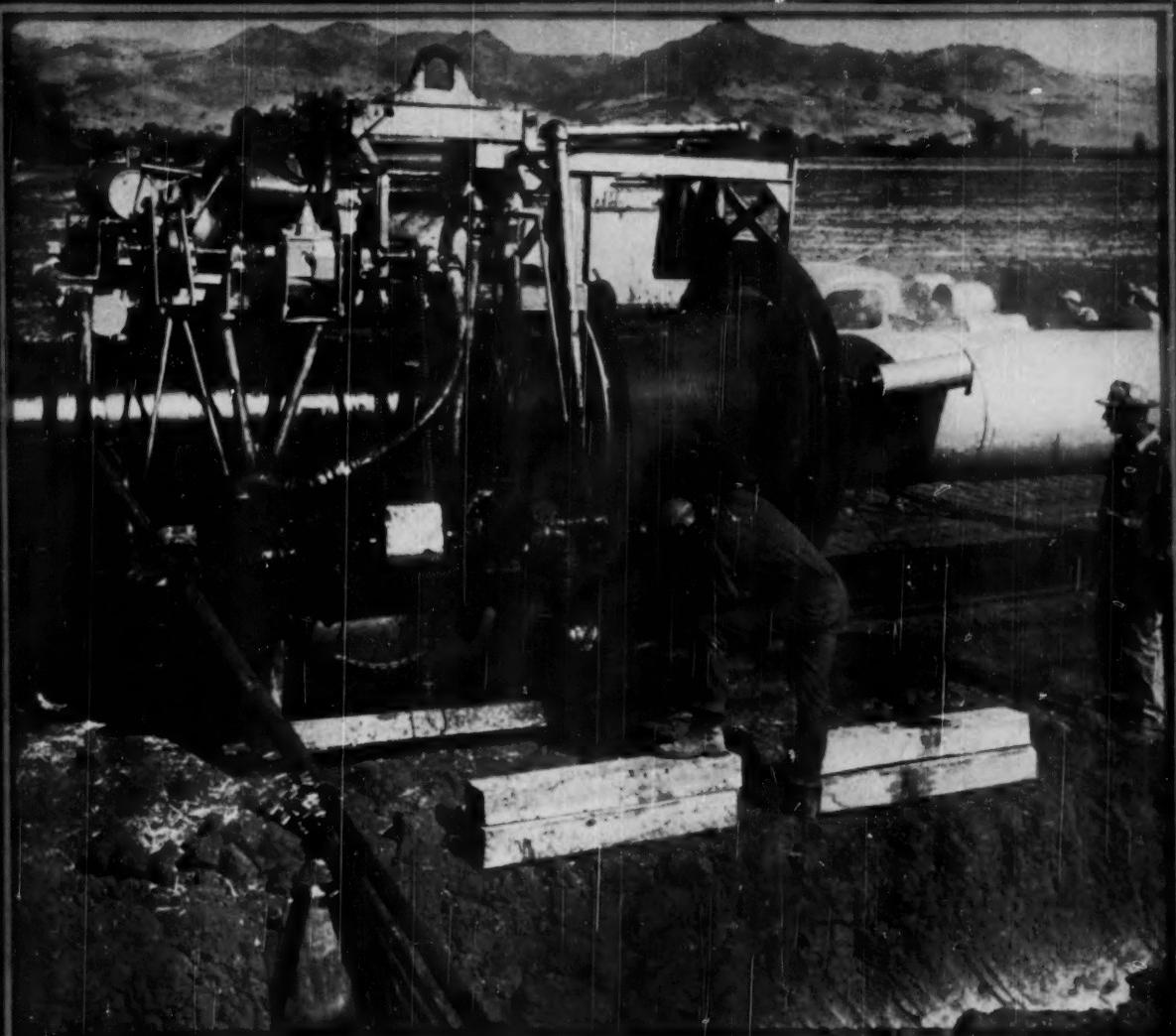


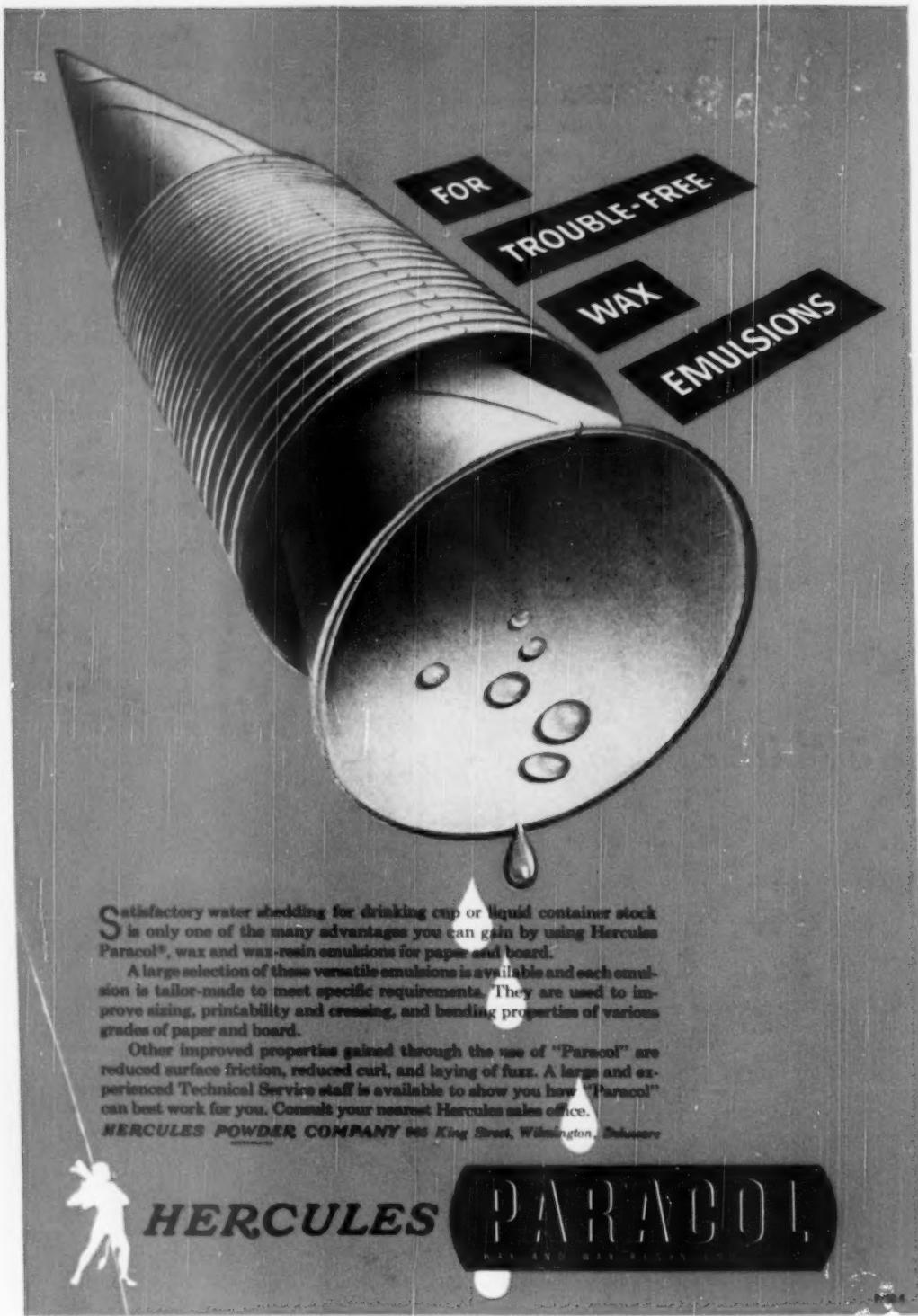
# PULP & PAPER

OCTOBER 1950  
Vol. 24 No. 11



## "SUPER INCH"—1,500 MILE TEXAS-CALIFORNIA GAS PIPELINE

It's all wrapped in asphalt-impregnated felt, then clean kraft paper by this new machine. See PAGE 34 for more about this unusual use of paper.



Pulp & Paper, October, 1950, Vol. 24, No. 11. Published monthly except April, when publication is semi-monthly, at 71 Columbia St., Seattle 4, Wash. Subscriptions: U. S. and Canada, \$3.00; other countries, \$4.00. Re-entered as second class matter Oct. 17, 1947, at the Post Office at Seattle, Wash., under the Act of March 3, 1879, original entry as second class matter authorized May 20, 1927. Copyright, 1950, by Miller Freeman Publications.

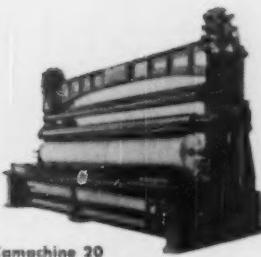
## New Camachines®

have stepped up production without increasing costs. Speeds like a mile-a-minute on the big newsprint winders.

And 1000 f.p.m. on delicate slitter-rewinder operations where 400 f.p.m. was tops only a few years ago. Along with high speeds are many revolutionary new performance features adding to roll quality, providing greater versatility and more simple operation.

New Camachine performance gives you a great opportunity to increase your production, increase your market and increase your profit. No matter what material you work with—paper, plastic, rubber

or textile—you'll please your customers by offering faster delivery of top quality rolls. With the right new Camachine working for you...



Camachine 20

World's fastest paper mill winder, produces top-quality rolls at speeds up to 5000 f.p.m. on newsprint. Features air-operated slitters. Widths from 180" to 300". Rewound diameters to 40" on paper, 60" on board. Write for the descriptive bulletin "Mile-a-Minute."

*you'll find  
new customers  
everywhere*



Cameron Machine Company • 61 Poplar Street • Brooklyn 2, N.Y.

Camachine engineers will be pleased to consult with you on any roll production problem.

PACIFIC COAST SUPPLY COMPANY • PUBLIC SERVICE BUILDING, PORTLAND 4, ORE. • 260 CALIFORNIA ST., SAN FRANCISCO 19, CAL.

October 1950



**Bristol's pH Controller-Recorder puts plant waste neutralization on continuous, accurate, economical basis**

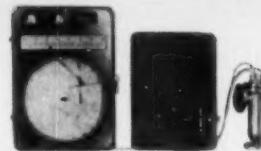
If you are now neutralizing plant wastes manually—or are considering the installation of a neutralization system, a Bristol pH Controller-Recorder can standardize your results . . . prevent corrosion losses . . . utilize chemicals with maximum economy and safeguard stream and river purity.

A typical installation involves:

- a Bristol pH Controller-Recorder which continuously measures the pH of plant wastes and controls the flow of reagents to the mixing chamber to achieve a neutral value —
- and a Bristol Recording Flow-Meter which measures the volume of material to be treated, records the variations in the rate of flow and totalizes flow for record and cost-figuring purposes.

*These Bristol Instruments are carried in stock for immediate delivery. Write for further information. THE BRISTOL COMPANY, 142 Bristol Road, Waterbury 91, Connecticut.*

Bristol makes a complete line of instruments for controlling sewage and industrial waste disposal processes, including recording thermometers, liquid level instruments, flow-meters, pH instruments, recording gauges, pyrometers, telemetering instruments, and automatic controllers.



**Bristol Continuous pH Controller-Recorder**

**TYPICAL UNIT CHEMICAL-PROCESS APPLICATIONS FOR BRISTOL pH INSTRUMENTS**

**Neutralisation** . . . to show when reagents have carried reaction to desired pH value.

**Coagulation** . . . to indicate when optimum pH value is attained.

**Precipitation** . . . to insure complete precipitation and proper physical properties of precipitate.

**Fermentation** . . . to insure that material remains within the critical pH range for maximum action.

**Electro-deposition** . . . proper pH determines efficiency of base metal plating.

**Other Applications** . . . crystallization . . . absorption . . . filtering . . . bleaching . . . settling. Write for facts.



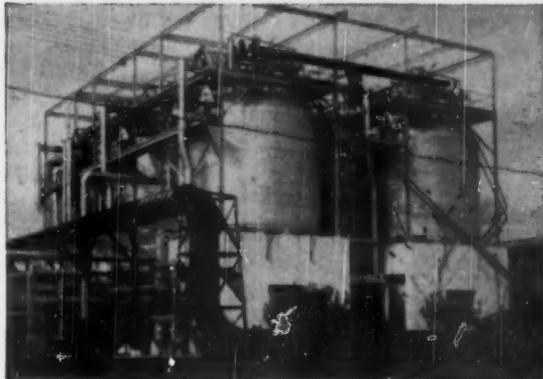
*Engineers process control  
for better products and profits*

**AUTOMATIC CONTROLLING AND RECORDING INSTRUMENTS**

# SULPHUR

\*Interesting Facts Concerning This Basic Raw Material from the Gulf Coast Region

## \*SUPERHEATED WATER . . .



Mining operations are most successfully carried out if the water pumped into the sulphur deposit is heated under pressure to a temperature of about 320° F. For large scale mining, enormous quantities of water are required, so, a primary requisite is an adequate supply of suitable water and an efficient power plant in which to heat it.

To insure a continuous supply of water at Newgulf, it is the practice to use river water pumped in time of flood or full flow and stored in large reservoirs. This supply is supplemented, when necessary, with well water. Water so obtained is seldom suitable for use in boilers or mine water heaters without being treated first because of natural salts in solution. Softening by chemical treatment is necessary to prevent deposition of scale on boiler tubes and hot water lines.

Loading operations at one of the huge vats of Sulphur at our Newgulf, Texas mine. Such mountains of Sulphur are constantly being built at our mines, from which shipments are continually made.



**TEXAS GULF SULPHUR CO.**  
75 East 45th St. New York 17, N. Y. INC.  
Mines: Newgulf and Moss Bluff, Texas

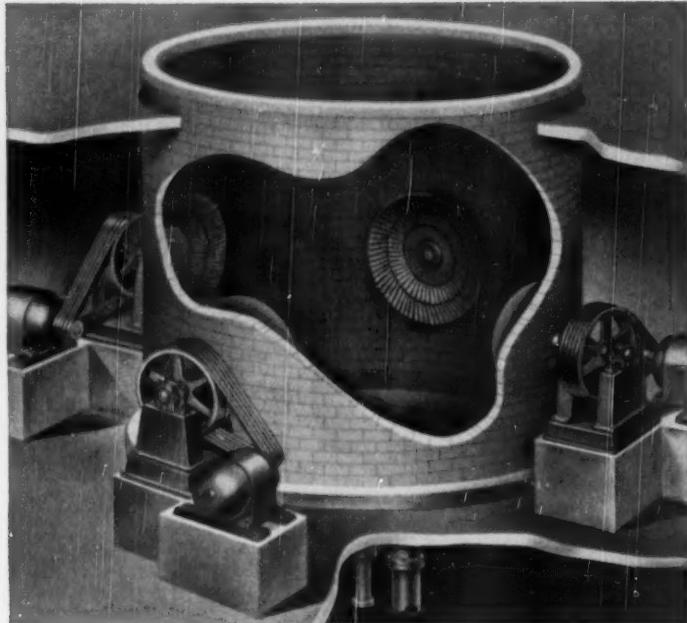
The Rice Barton

# QuattroPulper

... a high production machine . . . ideal for disintegrating pulp, broke or waste paper

#### Other DynoMachinery

- The QuattroPulper is designed for processing stock in large capacities . . . either batch or continuous operation.
- The DynoChest is primarily for disintegrating stock in slush form . . . batch operation.
- The DynoFiner is for performing the same operation on a continuous basis.



THE stock is charged all at one time into the top of the vat. Four DynoPellers (described below) subject it to the vigorous dynamizing action that completely separates each fibre from its neighbor, maintaining its original length. The simple operating principle and

design of the QuattroPulper eliminates the "wracking" and grief of other types of pulpers. Because there are few moving parts there is no loss of production time due to repair or adjustment. The QuattroPulper defibers the stock at low cost and produces a high quality slurry quickly and effectively.

#### The DynoPeller . . . . .

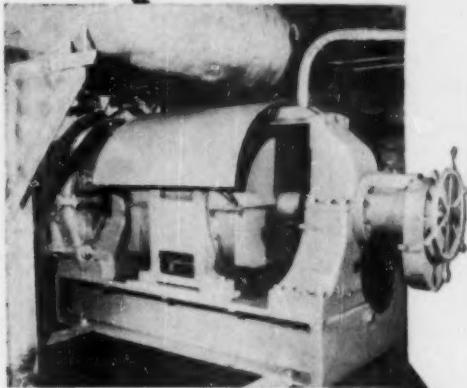
is the heart of all DynoMachines. Its concave face is lined with rough, hard carbide particles. As the DynoPeller rotates it causes a suction at its center that pulls the stock towards it. Centrifugal force then causes the stock to flow rapidly over the rough carbide particles. This effective dynamizing action completely disintegrates the stock . . . separating each fibre from its neighbor while maintaining its original length.

RBRE

Let us tell you how the QuattroPulper can save YOU money in processing YOUR particular stock. Write today.



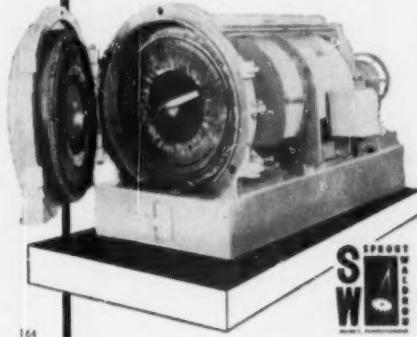
**Mills that compare**  
**Refiners**



**THE RUBEROID INSTALLATION**

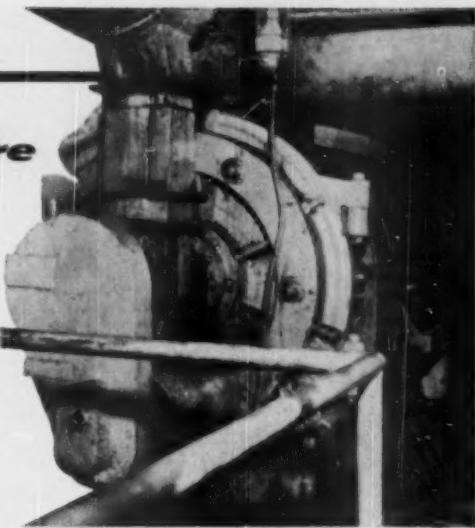
Sprout-Waldron Refiner Equipment at the  
Ruberoid Co., Gloucester City, N. J. plant

S/W Refiners do a wide variety of jobs—all of them thoroughly and economically. Here are some applications: refining kraft, soda, and sulphite knotted and fine screen rejects; hogged bull screen rejects; knotted and second screen rejects of raw groundwood; semi-chemical chips of all kinds; spent chips after extraction process; bagasse, straw, and similar grasses; breaking down lumps in reclaimed waste paper stock; reduction and refining of rag and other half stocks, etc., etc.



164

October 1950



**choose**

**Sprout-Waldron**

The success story of Sprout-Waldron Refiners is easy to understand if you consider these factors:

Here is a high quality Refiner that does more at less cost, It is ruggedly constructed, precision engineered, and includes the unique Peripheral Control Ring feature.

Great flexibility of adjustment enables you to produce a wide variety of pulp characteristics.

In fact, with the Sprout-Waldron you can pinpoint exact pulp requirements!

**ADDITIONAL ADVANTAGES:**

Plates are durable, come in many styles . . . are easily changed and inexpensive.

Initial investment in the S/W Refiner is comparatively low.

High production rates, economy in power consumption, ease of operation, adjustment and maintenance, mean additional savings.

A Sprout-Waldron representative will be glad to consult with you on refining problems and explain how these Refiners can step up output and reduce operating costs.

Write today for Bulletin 41 to Sprout, Waldron & Co., Inc., 32 Waldron St., Muncy, Penna.

**Sprout-Waldron**  
Manufacturing Engineers  
SINCE 1864  
MUNCY • PENNSYLVANIA

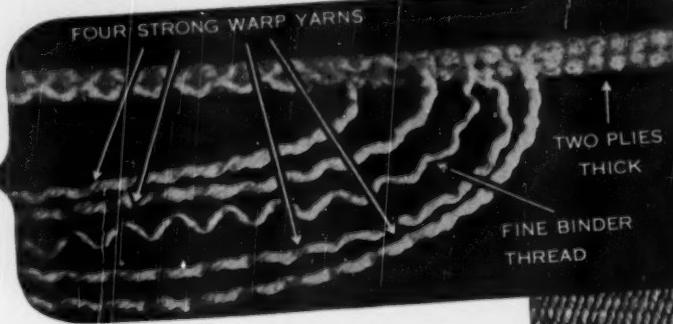
# BRANDON

## "Multiple Weave"

### Cotton Dryer Felt

A Smoother Surface:  
for Better Finish on high-grade papers

Here is  
the  
weave



#### NOTE Closely these IMPORTANT FEATURES:

- 1 Surface threads go "over and under" only one filler—giving SMOOTH, FLAT surface. No sharp "knuckles" to mark your sheet. Better finish.
- 2 Same four (4) sets of strong WARP threads used in the 3-ply weave. Plenty rugged for fast running machines.
- 3 High porosity for fast drying. Medium weight—53-oz. square yard.
- 4 Actually two separate fabrics woven together—if one surface wears through, the other complete fabric holds the felt intact.

\* Preatretched and equipped with Clipper Seam if desired.  
Available now from 80" to 170" wide.  
Same price as regular cotton felts.

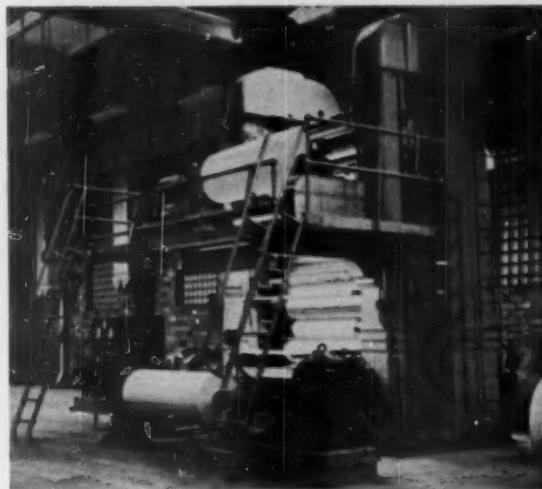
### Morey Paper Mill Supply Co.

309 SOUTH ST., FITCHBURG, MASSACHUSETTS

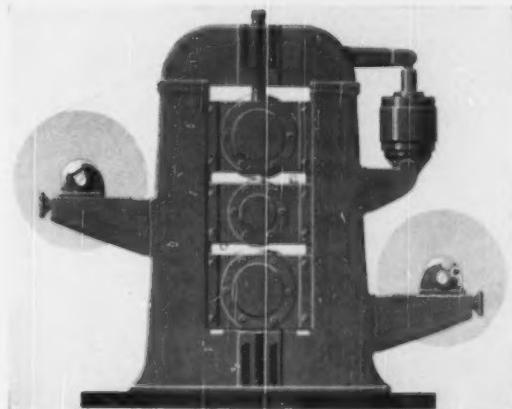
Sole Distributors of Dryer Felts Manufactured by

The Abney Mills, BRANDON Dryer Felt Mill  
GREENVILLE, SOUTH CAROLINA

**T**HE distinctive frames of the Appleton Supercalender have become a familiar feature in the finishing rooms of many mills manufacturing the finest high-finish papers, both in America and in Europe. Behind this singular construction are the very latest engineering advancements applied with an intimate knowledge of high-speed finishing requirements.



## **Higher Supering Efficiency · Improved Sheet Quality · Lower Operating Costs · Sustained High-speed Production · Precision Controls**



Many improvements in paper finishing and coating have been developed with the aid of Appleton Laboratory and Experimental Calenders. The lab stack can be furnished as a Supercalender, Machine Calender, Sheet Calender and as a Caliper Calender or in combinations. The Appleton five roll Experimental Stack duplicates mill operating conditions and results on trial runs.

**THE APPLETON MACHINE COMPANY • APPLETON • WISCONSIN**  
Sales Representatives • Castle & Overton, Inc., N.Y.  
Pacific Coast Supply Co. • San Francisco • Portland

# **A P P L E T O N**

## ***Superfinishing Equipment***

## Look to the broad CRANE line to simplify mill piping jobs

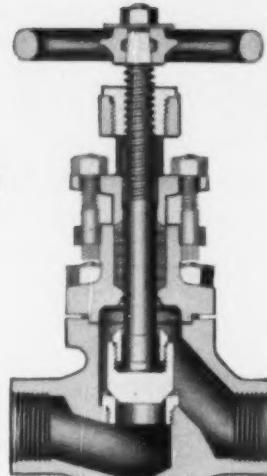
### FIRST CHOICE FOR CHLORINE SERVICES

You'll settle for nothing less, once you've tried Crane No. 1644 Chlorine Valves. Crane-engineered throughout . . . constructed of highest quality materials . . . they assure maximum safety and resistance to corrosion on chlorine gas and liquid lines.

Note these work-proved design features: 45° narrow bearing seat gives high unit pressure to break down hard deposits on seating surfaces; assures pressure-tight closure. Durable, tight bonnet joint seal is maintained by bolted bonnet and corrugated Monel gasket. Chlorine service-tested packing keeps tight stem seal.

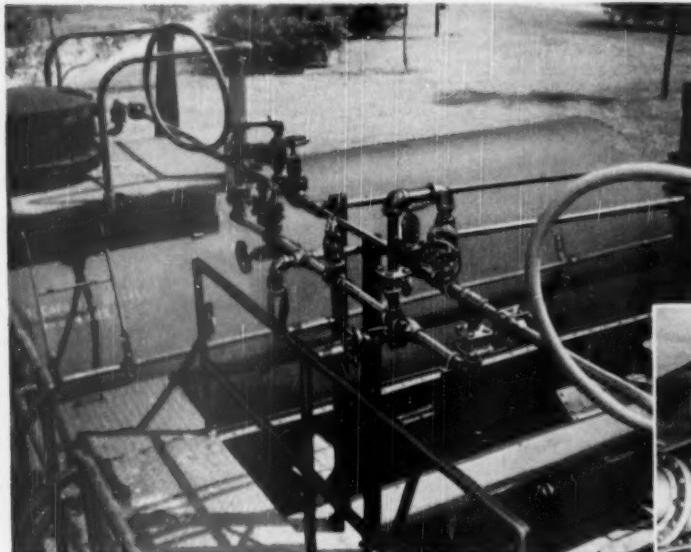
In materials as in design, these Crane valves are well suited to severe service conditions. Body, bonnet and yoke are heavy forged carbon steel. Disc-stem ring and renewable disc and body seat rings are corrosion-resistant Hastelloy "C". Stem is Monel. Send for Circular AD 1608, or see your Crane Catalog, page 376.

CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill.  
*Branches and Wholesalers Serving All Industrial Areas*



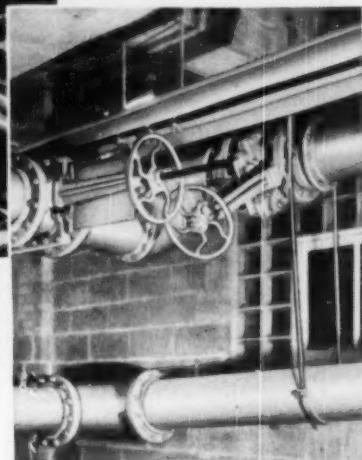
No. 1644, Forged Steel Globe  
for chlorine services up to  
300° F. Sizes:  $\frac{1}{2}$  to 2-inch.  
Also in angle patterns.

### ONE ORDER TO CRANE MAKES AVAILABLE AN UNEQUALED SELECTION OF VALVES, FITTINGS, AND ACCESSORIES



TANK CAR UNLOADING RACK equipped  
with Crane Chlorine Valves, forged steel  
flange unions, and fittings.

LINES TO BROWN STOCK CHEST in bleach  
plant, featuring Crane Iron Body Pulp  
Stock Valves.

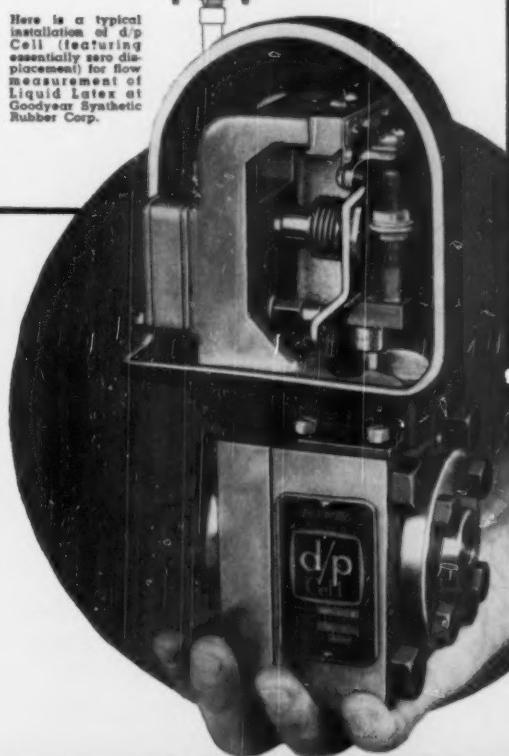
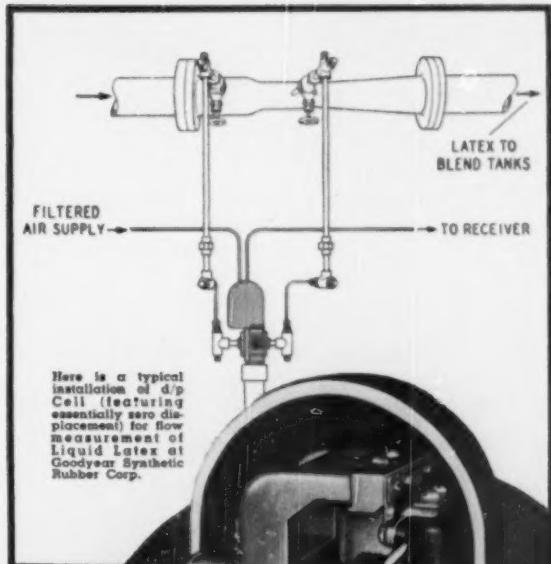


EVERYTHING FOR EVERY PIPING SYSTEM

# CRANE

VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

# NOW - measure flow of viscous or corrosive fluids without seal pots



You can cross seal pot troubles right off your list when you measure the flow of viscous or corrosive liquids with a Foxboro d/p Cell (differential pressure pneumatic transmitter). Goodyear did it very successfully on one of the toughest jobs . . . the control of latex flow to a coagulator. Here are the results obtained by this leading manufacturer through the use of the mercuryless d/p Cell:

- A. 83% reduction of instrument cleaning and maintenance costs.
- B. No unscheduled production shut-downs for instrument maintenance.
- C. Estimated savings over previous flow measuring system will return cost of d/p Cell installation in approximately 1 year.

These cost-saving achievements were made possible by the elimination of seal pot disadvantages . . . (frequent and time-consuming clean-outs, constant risk of clogging, instrument inaccuracies, etc.). Why not realize similar savings on sulphite acid, green, white, or thick black liquor, pulps and slurries? Send for complete data on the d/p Cell, and the technical report on the savings effected at Goodyear. The Foxboro Company, 254 Neponset Ave., Foxboro, Mass., U. S. A.

## FOXBORO

REG. U. S. PAT. OFF.  
d/p **CELL**  
for better flow measurement



Our service simplifies  
*your paper work!*

When you have paper production problems  
remember that STEIN-HALL—  
with its years of "know how"—  
is eager to be of assistance.

Our salesmen...  
more than just selling quality starches,  
dextrines and gums...  
are technical experts  
...versed in applying these products  
in actual use.

And those questions which  
our salesmen cannot answer...  
we will turn over to our fully staffed laboratory,  
which is also at your beck and call.

At any time...  
your nearest STEIN-HALL man  
can be counted on for  
prompt, thorough attention.

STARCHES, DEXTRINES AND GUMS  
for the Paper Industry  
LABORATORY-CONTROLLED FOR QUALITY  
AND UNIFORMITY

**STEIN SH HALL**  
505 MADISON AVENUE NEW YORK 17, N. Y.

**BETTER CONTROL**

**More flexibility**

**better preparation**

**OLD INSTALLATION**

**NEW INSTALLATION**

**ED Jones**

The refining equipment replaced (in this actual Jones installation) by Jones High-Speed Refiners was not old or obsolete or worn-out equipment. It represented some of the best current competitive thinking. . . . Yet Jones High-Speed Refiners actually produced improved stock — at a saving of over 300 operating horsepower. They save on maintenance cost, too.

E. D. Jones & Sons Company, Pittsfield, Mass.

For more information, write for Bulletin EDJ-1011A.

**BUILDERS OF QUALITY STOCK PREPARATION MACHINERY**

## Cut HOURS from your beating cycle

The unique 4-way pulping action of the PULP-MASTER provides complete disintegration of new pulp, wastepaper and even wetstrength papers in 10 to 40 minutes.

A New England mill reports: "We operate our Pulp-Master . . . primarily as a stock breaker . . . with stock of high consistency — 5½% to 7%. The Pulp-Master has reduced our beating cycle for all types of stock."

Available in four sizes: for batch or continuous operation. Write for Bulletin EDJ-1019B, or ask your Jones representative.

**ED Jones**

## PULP-MASTER

E. D. Jones & Sons Co., Pittsfield, Mass.

**BUILDERS OF QUALITY STOCK PREPARATION MACHINERY**

**NEWPORT NEWS  
WELDED  
LOG  
BARKER**



**Sturdy Construction...  
Rugged Performance**

The Newport News 45-foot welded log barker is constructed of two slotted drum sections weighing a total of 148,000 pounds. Incorporated in each section, which is fabricated from three 1 1/4" steel plate rings welded together in halves, are heavy circumferential stiffener rings welded on the outside. Cast steel gears and forged steel rails form part of each assembly. Upon completion of assembly and welding, sections are completely annealed to relieve any stresses resulting from welding.

The sturdy construction of the Newport News barker is demonstrated by the rugged performance of two such units which have been in continuous service for almost two years in a large southern mill. Maintenance requirements during the period of operation of these units has been negligible.

Write for additional information.

**NEWPORT NEWS**  
SHIPBUILDING AND DRY DOCK COMPANY  
NEWPORT NEWS • VIRGINIA

# Profit MO\$T by using the BE\$T



**NOPCO\*** WAX SIZES not only assure  
HIGHEST Sizing Efficiency but LOW Sizing Cost

Nothing is more profitable than size that gives outstanding results and yet proves inexpensive to employ. That's why Nopco Wax Sizes are unexcelled. For example:

**Nopco 2252—Ready-to-use Emulsion**—is a liquid paraffin wax size that is without equal in beater application. *First:* Its extremely fine, chemically-produced particles (unmatched by those of physically-made sizes), plus its extraordinary alum sensitivity, assure excellent retention by the fibers and exceptionally uniform size distribution. Upon drying, the size is fluxed evenly thruout the sheet. *Second:* Nopco 2252, precipitated onto the fibers, is totally inert—and therefore not affected by water, temperature, or any of the other common causes of size failure. *Third:* Nopco 2252 requires much less alum per pound of sizing material added—resulting in considerable savings in alum cost. Available in 55-gallon steel drums.

**Nopco 2251 and Nopco 2251-B—Anhydrous Emulsifiers**—carry the greatest amount of paraffin wax consistent with good emulsion stability. Their small particle size (less than  $\frac{1}{2}$ -micron) and high alum sensitivity result

in excellent retention by the fibers. Eminently suitable for beater application. Solid in form, both Nopco 2251 and Nopco 2251-B permit substantial freight savings over finished emulsion types. Available in 70-lb. cartons.

**Nopco 2251-X—Anhydrous Wax Size**—provides a perfect balance of wax and emulsifier that enables a stabilized emulsion to be produced spontaneously by simply melting the mix and adding to hot water. An extremely easy-to-use creamy, waxlike solid. This Nopco product not only lowers the cost of size preparation, but also results in appreciable freight savings when compared with finished emulsion types. Available in 70-lb. cartons.

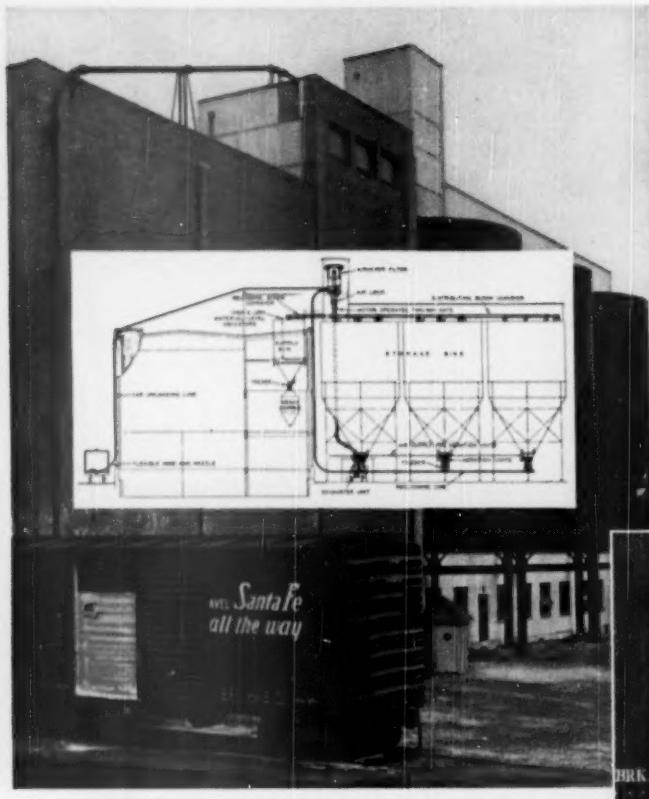
These and other Nopco sizes have been designed to fulfill the most exacting requirements—while affording exceptional "mileage" for each pound used. If you are not already using Nopco Wax Sizes for internal application, it will pay you to give them immediate trial. Call on our technical service representative today. He will gladly work with you—right in your own mill, if desired—and help you solve your sizing problems to best advantage.

**NOPCO CHEMICAL COMPANY—Harrison, N. J.**

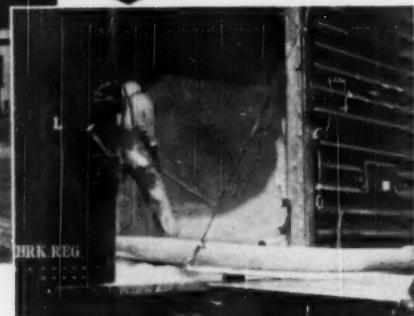
*Formerly National Oil Products Company*

Branches: BOSTON • CHICAGO • CEDARTOWN, GA. • RICHMOND, CALIF.





**if it's  
pulverized,  
convey it  
pneumatically**



## **Airveyor<sup>®</sup> goes to work for the New York & Pennsylvania Company**

**Problem:** To install a conveying system for coating clay that would match the efficiency of the expanded and modernized plant at Lock Haven.

**Solution:** Pulverized coating clay, with a moisture content of not over 3 per cent, is pneumatically unloaded from box cars and conveyed to the Airveyor filter for delivery to any one of three storage bins, or direct to a supply bin above a weigh hopper. Unloading rate is 10 tons an hour. The same system reclaims clay from the storage bins and delivers it to the supply bin—by remote control from a centrally located panel board. Provision is made for automatic return of clay to the storage bin, from which it is being conveyed, when the supply bin is full, or to any bin in any sequence when unloading from cars.

If handling of dry, pulverized materials is a major problem to you, look to Fuller for the most economical and practical solution. Fuller specializes in pneumatic methods of materials handling. Today, the Airveyor, and other Fuller Systems, are cutting handling costs, and materially increasing operating efficiency in hundreds of installations. To have a Fuller Engineer survey your present system and make recommendations for modifications places you under no obligation whatever. It's more than likely that the results of his study will point your way to more efficient materials handling at lower operating and maintenance costs.

FULLER COMPANY, Catawissa, Pa.  
190 S. LaSalle St., Chicago 3 • 420 Chancery Bldg., San Francisco 4

DRY MATERIAL CONVEYING SYSTEMS AND COOLERS—  
COMPRESSORS AND VACUUM PUMPS—  
FEEDERS AND ASSOCIATED EQUIPMENT

**fuller**

A-112



## TREES OF MERCY FROM OUT OF THE SKY

Anywhere in the world where persons are cut off from normal sources of supply . . . food, fuel, medicine, and other necessities can be brought to them by air transport—even though landing facilities do not exist. The answer, of course, is the cargo parachute.

These life-preserving 'chutes usually are made, wholly or in part, from high-strength viscose rayon yarn, much the same kind of yarn that improves the wearing qualities of automobile and truck tires. And what is the yarn made from? Trees!

In fact, more than eighty per cent of all viscose rayon and acetate yarns produced in this country are made from highly purified cellulose derived by chemical processes from wood.

Rayonier supplies a large part of the highly purified wood cellulose used by domestic textile manufacturers for making viscose rayon and acetate yarns and staple fiber for wearing apparel, tire cord, draperies, rugs, and many other textile products. We also supply large quantities of purified wood cellulose for the manufacture of cellophane and other transparent packaging materials.

**RAYONIER**  
INCORPORATED

EXECUTIVE OFFICES: 122 East 42nd Street, New York 17, New York • MILLS: Nequiam, Port Angeles, Shelton, Washington; Fernandina, Florida

PRODUCER OF HIGHLY PURIFIED WOOD CELLULOSE for TEXTILES • TIRE CORD • CELLOPHANE • PLASTICS

# *Designed for You*

**... if you want  
stock lines that  
last longer,  
cost less**

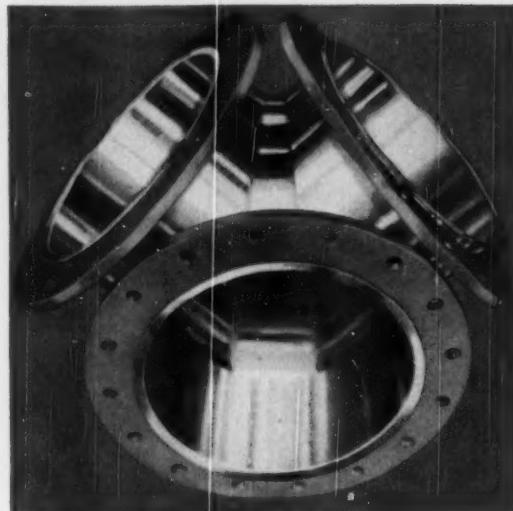
How do *you* figure the cost of a stock line installation?

You know, of course, that adding fabrication costs to installation costs will give you only part of the picture. During the useful life of a stock line, *maintenance costs* may well exceed the sum of the other two figures.

That is why most mills put *low maintenance* high on the list of stock line specifications . . . and why many of the nation's largest mills choose stock lines made of Monel®.

Monel stock lines and fittings bring you a combination of important advantages that you can get from no other stock line material. Check these assets . . . and compare. You'll see at once why Monel has for many years been a *preferred metal* in the paper industry. Monel, and *only* Monel, offers you all these money-saving and engineering advantages:

1. *Proven high resistance to corrosion by acid and alkaline stocks, and white waters.*
2. *A smooth, wettable surface to resist slime and fibre accumulation.*
3. *Strength and hardness equal to those of structural steel. Use lighter gauge metal to do the same job—at less cost!*
4. *Good workability. Monel may be readily machined, formed, bent,*



A fabricated Monel tee, used as a connection between a cycling chest, dump chest, and pump from the hydropulper at the Maxwell Paper Company, Franklin, Ohio.

The tee measures 16 in. O.D. and is made of 14-gauge Monel. Fabricated by BROWN-SINGER CO., Middletown, Ohio.

*soldered, brazed, welded. Welds in Monel are as strong and corrosion-resistant as Monel itself.*

5. *Made in a variety of standard mill forms, including wire, wire cloth, and fastenings.*

In addition to its usefulness in stock lines, Monel has an excellent record in many other important paper-making applications . . . stock inlets, slice blades, head boxes, jordan fillings, doctor blades, screen-plates, winding wire, pump shafts, valves, piping.

Next time you need equipment, think of what Monel may mean to you . . . in lower maintenance costs, longer service life, and lighter weight construction. Write for full information and addresses of specializing fabricators and suppliers.



THE INTERNATIONAL NICKEL COMPANY, INC.  
67 Wall Street, New York 5, N. Y.

# MONEL

...FOR MINIMUM MAINTENANCE

# 29

CYLINDER BOARD MACHINES

NOW DELIVER

A BETTER SHEET



It's no secret among the men who make paperboard that Downingtown's scientifically engineered Approach Flow Vat System is the one *sure* way to get a quality sheet that has uniform weight and caliper across the machine. After more than a hundred vat installations and experience over a large range of furnishes, we have the answer to your problem, and the men who are using the System know we have . . . Everything possible has been done to insure even dispersion of the fibres right up to the mould, and to reduce entrained air to a minimum.

To get your machine off to a better start toward high production and high quality—plus, let us tell you more.

## DOWNTOWN Approach Flow Vat System

**DOWNTOWN MANUFACTURING COMPANY**

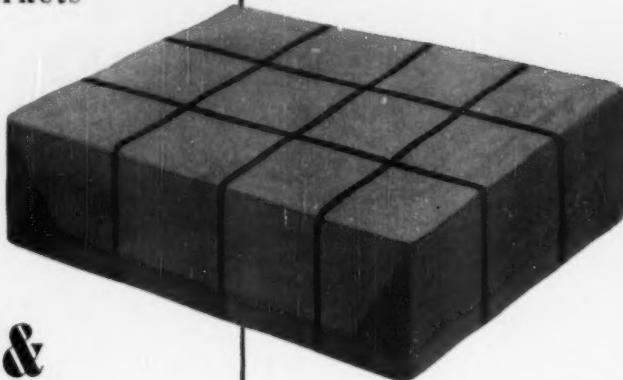
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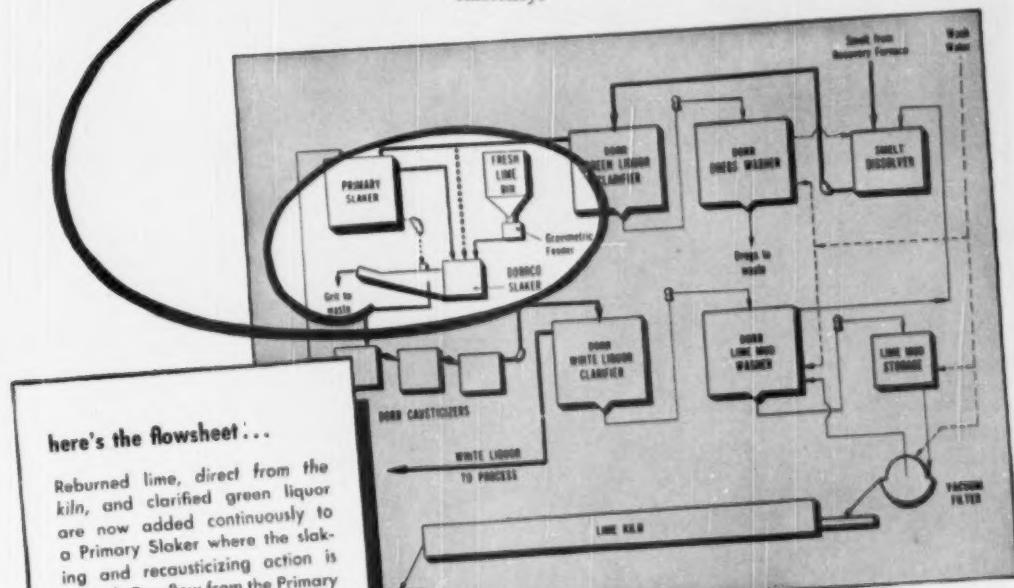
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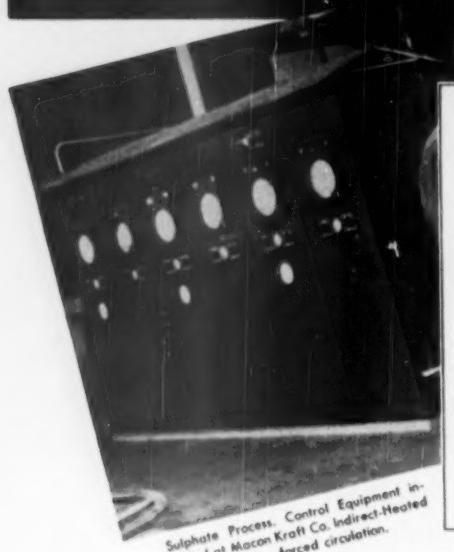
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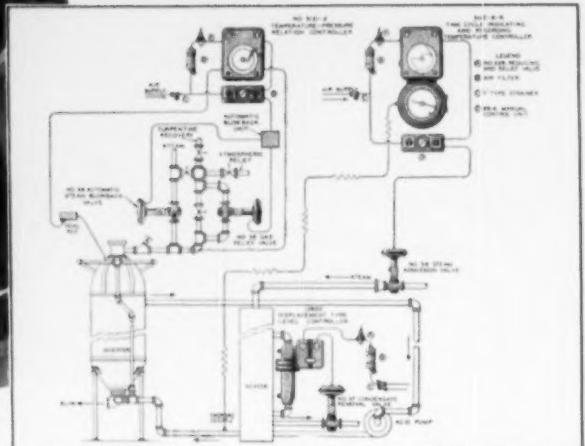
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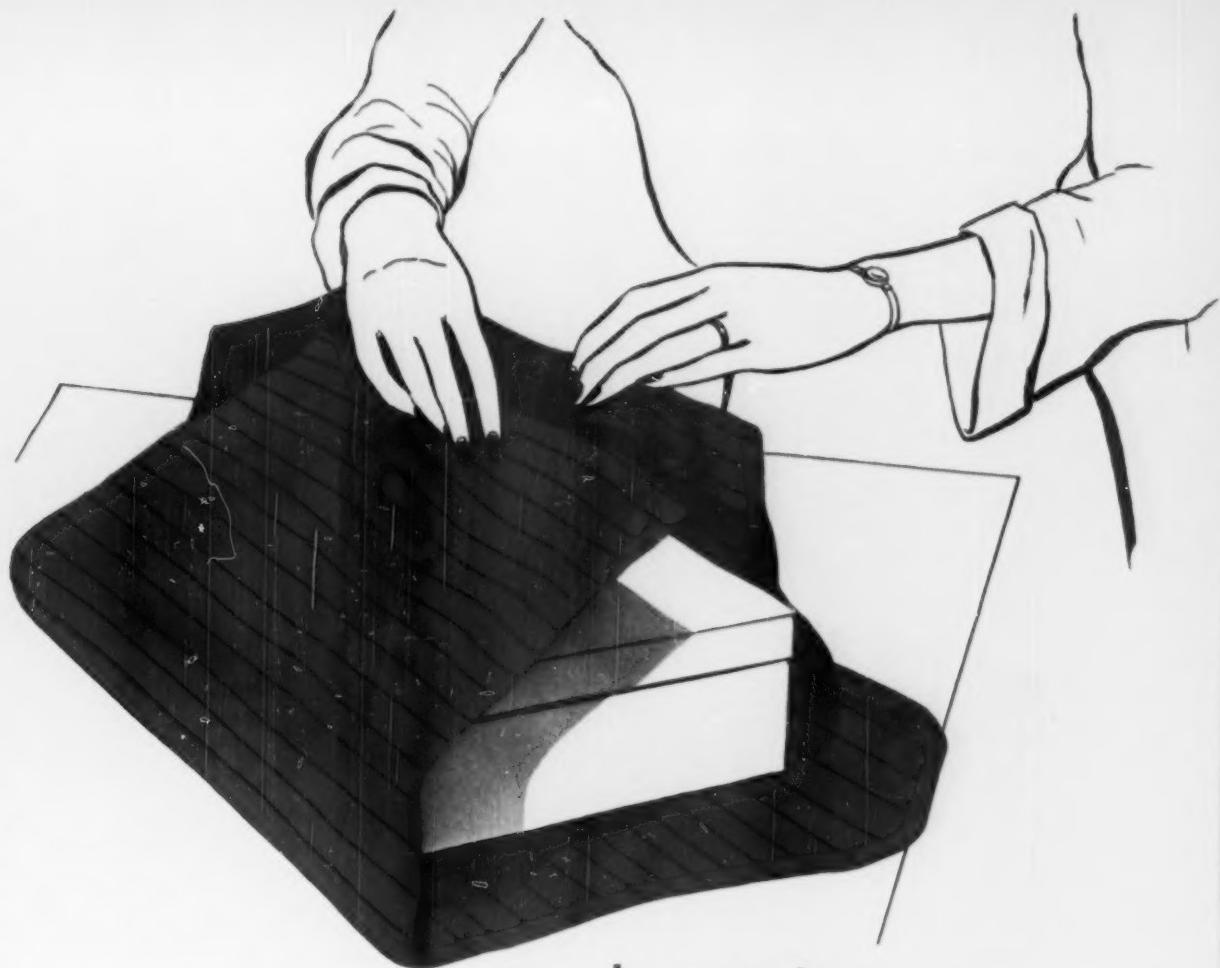
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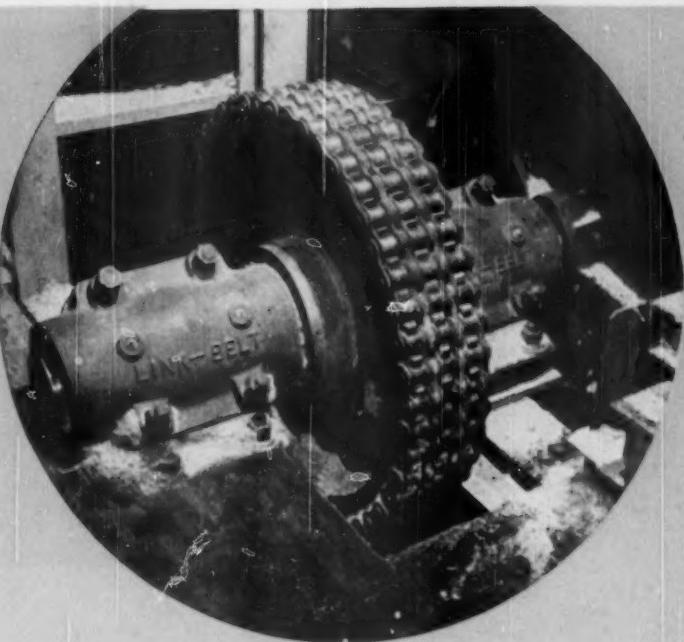
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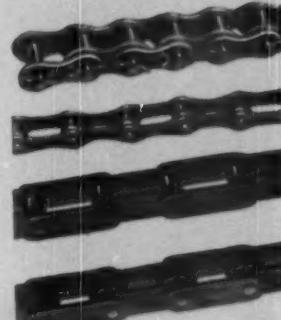
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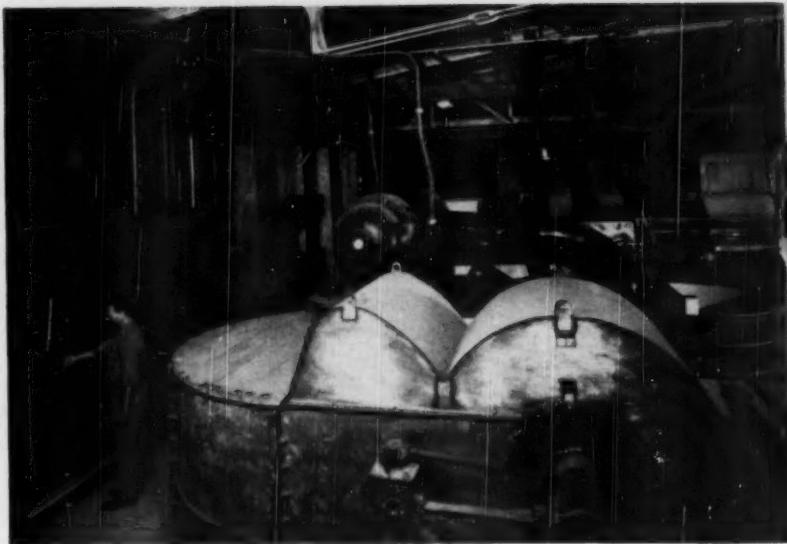
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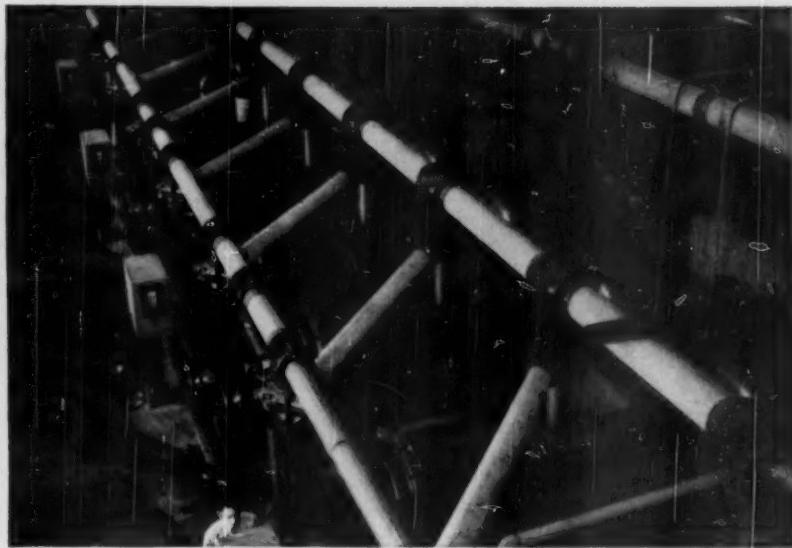


**TEAMED TO REFINERS!** In a southern pulp and paper mill, these G-E 300-hp 2300-volt synchronous motors driving refiners are controlled by a lineup of G-E Limitamp controllers at upper left. Providing high interrupting capacity at minimum cost to protect high-voltage motors, Limitamp prevents costly repairs due to short circuits, safeguards the paper-mill's production continuity.

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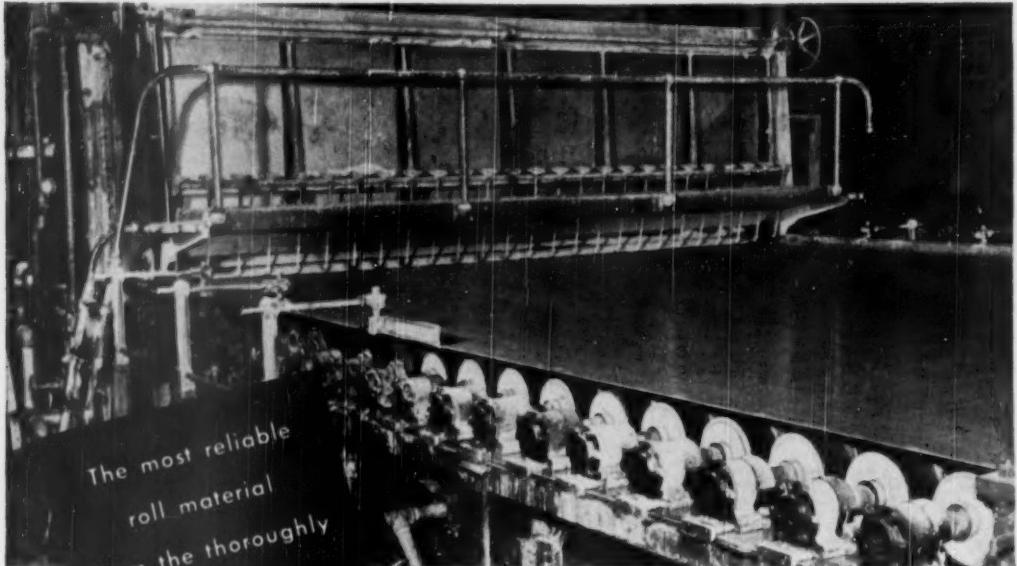
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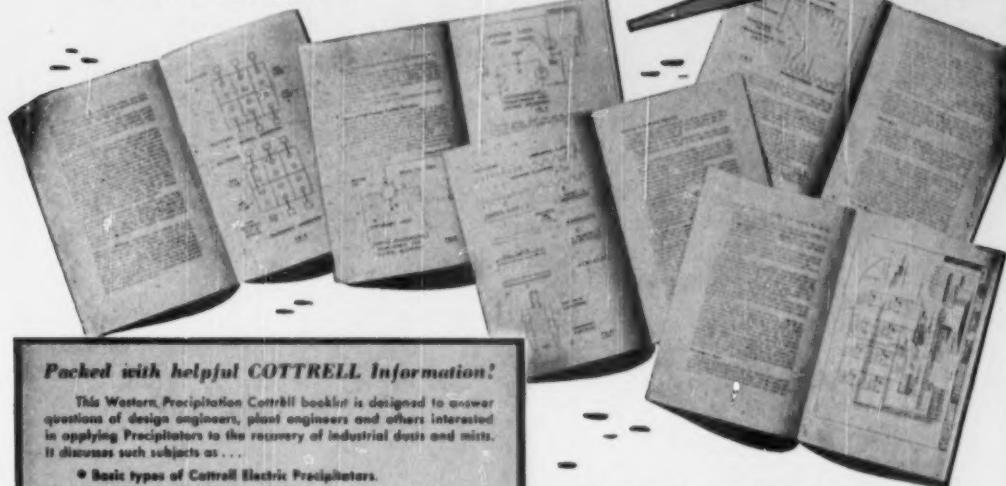
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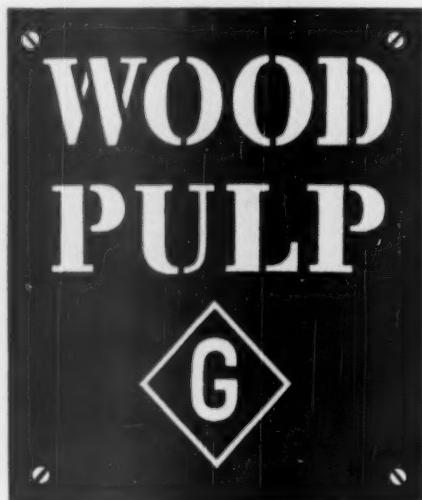
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NARD JONES  
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PRODUCTION MGR.—Ed.

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### Uncle Sam Calls on Ohio's Mead Again

"It is getting so that, whenever the government at Washington finds itself in serious difficulty, one of the first things it does is to send to Dayton for George H. Mead," was the complimentary appraisal given the honorary chairman of the board of the Mead Corp. by his home-city newspaper, Aug. 10. There's no disputing that statement!

Mr. Mead had just been appointed a member of a 12-man committee for mobilization policy by W. Stuart Symington, chairman of the National Security Resources Board. Almost immediately he hopped in a plane to tour the country, talking to woods industries officials of war requirements and other urgent matters. In his own plane with pilot, he went as far as Longview, Wash., and other pulp and paper Northwest centers.

The latest Mead appointment is one of many in a long series in voluntary national public service. He started with Roosevelt's NRA board. Then came the National Business Advisory Council, War Labor Board, Advisory Board of Office of War Mobilization, and the Price De-Control Board. Next he served the Hoover Commission for governmental reorganization—and now the NSRB. In between some of the latest he has been on the public advisory board under the Marshall plan.

Dayton feels—and so does the pulp and paper industry—that George H. Mead is its counterpart of New York's Bernard Baruch. And the pulp and paper industry is pleased to have a man of his understanding dealing with its wartime problems.

### The Mystery of the Voluntary FAO Fund

In these days of worry about manpower in the woods, plus higher taxes, we thought it would be of interest to our readers to know about the distribution of a "voluntary" fund of \$20,012,500 which popped up recently "to extend UN technical assistance." We noticed that almost 30% of this fund was to go to FAO "to be used over 18 months."

So we asked Mr. Egon Glesinger, chief of the forest products branch, if he would comment on the specific purposes for which this fund would be used—matter of news, we thought. This was June 15. Receiving no reply, we wired on June 26. Still no reply. We wrote to the director of FAO on June 30. Receiving word that Mr. Glesinger was in Europe for a month or so, we were told that the question had been turned over to a Mr. Felsovanyi, although he was "extremely busy with all kinds of arrangements in connection with the Point 4 program" but would get to this matter, say, by July 6. Sure enough, on that date we received a very general outline of the purposes of the forestry division of FAO, dated, incidentally, June 5. It seemed to us that this was very general indeed, although it did mention something to the effect "that a number of countries concerned are showing interest in the pulping possibilities of their mixed indigenous species and the manufacture of kraft paper and newsprint." So on July 14 we tried again. We lost. On July 19 the matter was temporarily closed by N. de Felsovanyi, who emerged from all kinds of matters long enough to say that "it is impossible to furnish you with more specific information about our technical assistance projects. They are still in a preparatory stage and several months will elapse before more detailed information could be given on them."

There is no such problem of gaining information on technical woods programs in this country; maybe because there is no such "voluntary fund" appearing out of nowhere for that purpose.

### In Paper Industry, Living Is Good

Again we have some enlightening information on how unusually high is the standard of living in a paper mill community.

In one of the greatest paper industry cities of the world—Appleton, Wis.—over 75% of the 21,369 families living in the Appleton "city zone" are automobile owners, according to a study by the Appleton Post-Crescent newspaper.

The "city zone" includes Appleton, Kaukauna, Kimberly, Little Chute, Menasha and Neenah, all of which boast paper mills. A total of 363 families, or 1.17%, have incomes in excess of \$15,000 a year; 14.5% from \$7,000 to \$15,000; 16.6% from \$3,000 to \$7,000, and only 7.2% under \$3,000. The average family is 3.8 persons.

Almost 81% of the families own their own homes. Even in the lowest income brackets home ownership is the rule rather than the exception.

### Is Paper Industry Missing a Good Bet?

Do you know that the traditional first wedding anniversary gift is paper?

Did you ever give a paper gift, or hear of anyone else giving a paper gift to the bride and groom on that day when—according to another tradition—a bride ceases to be a bride and a groom a groom. We honestly never heard of paper gifts either.

Sounds like this is a bet the paper industry is missing—a way to promote more use of paper.

#### IN THIS ISSUE—

|                                 |    |  |    |
|---------------------------------|----|--|----|
| Munchausen Story .....          | 34 | NEW MILLS FOR B. C.: Celanese Progress ..... | 60 |
| Cover—Description .....         | 34 | Elk Falls Project .....                      | 60 |
| Meeting—Calendar .....          | 34 | Riegel Pulp Mill .....                       | 64 |
| War and Industry .....          | 35 | Thümlmany Equipment .....                    | 64 |
| News in Brief .....             | 36 | Kimberly-Clark Co. .....                     | 66 |
| Lee Mill Expands .....          | 38 | War Hits WSL Plans .....                     | 68 |
| NEW BIRD FELT                   |    | Rubberoid Felt Mill .....                    | 76 |
| MILL IN SOUTH .....             | 40 | Pennsalt's 100th .....                       | 72 |
| Carthage Coater .....           | 46 | PULPWOOD SECTION:                            |    |
| Convention Chairman .....       | 46 | Northeast Problems .....                     | 78 |
| News in Pictures .....          | 48 | Louisiana Planting .....                     | 80 |
| AN OUTSTANDING SWISS MILL ..... | 50 | Logging Effects by                           |    |
| New Pulp Dryer .....            | 52 | C. R. Silversides .....                      | 80 |
| Gardner Executives .....        | 54 | Burning Waste Liquor .....                   |    |
| MacMillan Cruise .....          | 58 | at Nekoosa-Edwards .....                     | 84 |



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# MACHINE TENDER Munchausen Stories



Our Machine-tender Munchausen yarn for this month is told by Elmer E. Davis (shown in picture), paper mill superintendent at Crown Zellerbach's Lebanon, Ore., mill. It's one that paper-makers everywhere will get at least a chuckle, and maybe an idea or two, from.

We're glad to have Mr. Davis's story for this issue because just a few days ago he passed his 39th anniversary with Crown Z., and its predecessor companies. He started way back in 1911 at the Camas, Wash., mill and he's still going strong after seeing a lot of the Pacific Coast with that organization. He became a machinetender when he moved to West Linn after starting at Camas. Then he returned to Camas; then moved to Ocean Falls, B. C.; back to West Linn; back to Camas; then to Port Townsend in 1928 where he became a tour boss; then to Camas for the 4th time in 1944 and to Lebanon in 1946. There he succeeded Charley Ackley, now the national president of the Superintendents Association and superintendent himself at West Linn.

Mr. Davis insists this is a true story. But our readers know, to qualify for this column, a story doesn't have to have a shred of truth about it. For each story, true or just a tall tale, which is published, we pay the usual \$5 honorarium.

Here's Mr. Davis's story:

#### The Story of the Red Brick

"We were working two shifts around the clock—12-hour-long shifts. So there were only two machinetenders, two back-tenders and so on, down the line. In those days there was quite a bit of jealousy and rivalry between the shifts, one shift trying to outdo the other.

"Something was going on when we found one shift going all day without a break and, as soon as the other shift came on, it would start to hay out and wouldn't make enough paper to put on the production report. This shift would fill up the room from wet end to dry end with broke, and the next day the superintendent would have to call in the yard crew to clean up the broke, and by night everything would be normal again. We changed shifts 7 a.m. and 7 p.m.

"Everything ran swell on days, but when the shift came on at 7 p.m., Old No. 6 would start to hay out again and by morning, the machine room would be full of broke again. The trouble was that the machinetender could not get his

paper up to weight. They would go through the pumps, dope up the belts and check all over the machine, but couldn't find anything that was wrong.

"So, after a few days of this, the superintendent decided to stay in the mill the whole 24 hours himself and, for a while, the machine was running perfectly again, both night and day. But then the trouble started again. So, the superintendent had a little peephole put in the attic where he could look right down on the wet end of the machine.

"By this time, he suspected the day shift machinetender on day shift of some dirty work and was on the lookout for him. We had an old time stuff box, and underneath part of the headbox there was a place you couldn't get to unless you crawled right under the screens to get to it. Well, this is where he saw the machinetender crawl at the beginning and the end of his shift, but the superintendent, up in the attic, couldn't figure out where the machinetender was going or what he was doing.

"So, the superintendent's next move was to fix himself a place under the screens. He lay there with water and stock coming down from the old flat screens, and when the machinetender came to work, he saw him come in and go to a pipe leading down from the headbox or stuff box. There he had made a false door, which he opened and reached into. He took out a big red brick which had covered part of the flow of stock through the pipe. And that's why they couldn't get the paper up to weight.

"Next shift we had a new machinetender and the superintendent's worries were over for a while."

#### CALENDAR OF MEETINGS

TAPPI-New England—Red Lion Inn, Stockbridge, Mass.—Sept. 29.

SUPTS.-Connecticut Valley Div.—Red Lion Inn, Stockbridge, Mass.—Sept. 30.

TAPPI-Engineering Conference—Netherlands Plaza Hotel, Cincinnati—Oct. 2-5

SUPTS.-Southern-Southeastern Divs.—Geo.

Vanderbilt Hotel, Asheville, N. C.—Oct. 12-14

TAPPI-Plastics Conference—N. Y. College of Forestry, Syracuse, N. Y.—Oct. 19-20

TAPPI-Alkaline Pulp Conference—Geo. Washington Hotel, Jacksonville, Fla.—Oct. 25-27

TAPPI-Pacific Coast—Camas, Wash.—Nov. 7.

TAPPI-Fibrous Agricultural Residues Conf.—Northern Reg. Research Lab., Peoria, Ill.—Nov. 12-13

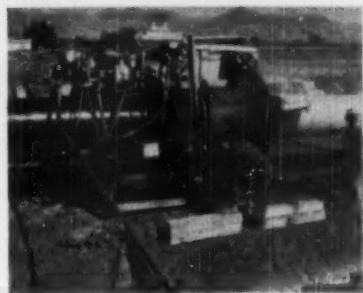
SUPTS.-Pacific Coast Div.—Longview, Wash.—Dec. 5

PAPER WEEK—APPA and Salesmen at Waldorf-Astoria, TAPPI at Commodore Hotel—Feb. 26-Mar. 1, 1951

SUPTS.—National Convention—Multnomah Hotel, Portland, Ore.—June 24-29, 1951

SALESMEN—Paper Industry—Midtown House, New York City—Every Mon. noon.

#### OUR COVER PICTURE . . .



Above is a replica of our cover picture this month.

In recent years, one of the romantic developments in industry has been the construction of fabulous pipelines—Big Inch, Super Inch, etc.—across deserts and mountains. With them come the development of weird looking self-propelled machinery, as shown in this picture, and new uses for many hundreds of tons of felt and paper. From far-off Arabia to Alberta, these natural gas pipelines have been built, or are being planned.

This picture was sent to *PULP & PAPER* by Pacific Gas & Electric Co., whose customers in Northern California will use Texas natural gas when Super Inch—1,500 miles long and 34 inches in diameter—is completed. A big part of it must cross the lonely Mojave desert, where roads are few and temperatures reach 115 degrees or more in the shade.

In this picture is shown a newly developed coating machine which swathes Super Inch in asphalt, felt and paper, to protect it from rust. Another newly developed self-propelled pipe cleaning machine puts a shine on Super Inch before the coating machine takes over.

The machine in our cover picture was manufactured by Perrault Bros. Pipeline Equipment and Supply Co. of Tulsa, Okla. It applies a hot coating of asphalt first, then a wrapping of asphalt-impregnated rag felt; another coating of asphalt, and finally a wrapping of clean kraft paper. The Super Inch will require about 314 tons of kraft paper.

Below is another picture showing how the pipeline is being coated and wrapped. This one was supplied to *PULP & PAPER* by Bechtel Corp. of San Francisco, engineers and constructors, who are engaged in laying the line.



#### Rapid Rise of Kraft

Rapid rise of sulfate pulp production in Canada in recent years is emphasized in a summary of wood pulp data prepared recently by the Canadian Pulp and Paper Association.

It is shown that while bleached sulfite output was growing by 60%, unbleached sulfite by 100% and mechanical pulp by 60%, sulfate pulp production in Canada advanced nearly 200% from 292,000 in 1939 to 856,000 tons in 1949.

Most new mills since World War II have been sulfite producers—Marathon, LongLac, Brompton (Red Lake), KVP Co., Bloedel, Stewart & Welch, Fraser Cos. at Newcastle, H. R. MacMillan Export at Harmac.

# War and the Industry

## CHIEF FOR PAPER TO BE PICKED

As this issue goes to press the passage of the Defense Act seems to be a matter of hours and, as predicted in our September issue, the Department of Commerce rather than NSRB appears to be assuming a dominant role in the war plans of this industry and others.

Coincidental with the above fact, the names of committee members who will advise Commerce for the industry have been announced. As published previously in **PULP & PAPER**, the nucleus of the committee are 14 members of the Pulp and Paper Council, formed last year to advise Commerce. As to allocations, controls and priorities, it is understood that leaders in the industry have come to a well outlined understanding that these will not be necessary for some time to come, the chief problem of the industry being to climb the present hump of demand which is regarded as over normal peak due to "scare buying."

Although they will not be quoted, it is believed representatives of this view in Commerce are no less than H. B. McCoy, director of the Office of Industry and Commerce, and Harold E. Holloman, chief of the forest products division of that office.

Behind them, and possibly to take some active part, is LeRoy Neubrech (in picture) who heads up the domestic branch of forest products and is familiar with the industry.

While Commerce is going to be dominant in the war plan for industry this does not mean that NSRB will fade out or its role is to be secondary. Chief problem of NSRB, and it will be tough, is to straighten out and hold down the military, and fairly divide its demands from those of industry. That function has been made plain, and apparently to the credit of NSRB, in the lumber industry. From reliable sources, **PULP & PAPER** understands that NSRB has held the military, chiefly the Army, down to a billion and a half feet a year as its current need for lumber, whereas an original estimate from the Pentagon is said to have reached six billion feet. Of course—and this should be of interest to pulp and paper men, too—this is as of now. Should the war spread beyond Korea, the military warns, they want to re-open the question.

Mathias Nieuwenhous, chief of the forest products division of NSRB, told **PULP & PAPER** at press time that a head for the pulp and paper branch had not yet been appointed.

Late in September it was learned Congressman Emanuel Celler, New York (D), was pressing his own nomination for a pulp and paper branch head. He had, it is said, suggested his nominee to both NSRB and Commerce. The Congressman's attitude toward the industry had been demonstrated at the newsprint hearings (see September **PULP & PAPER**). It is possible, however, that Mr. Nieuwenhous has made a selection, ready and cleared. Although it cannot guarantee the information at this time, or name the man, **PULP & PAPER** ventures he has had OPA experience in the last war, is able in all departments, and comes originally from the Southern paperboard industry.

Most of the industry believes that very quickly after the passage of the Defense Act there will be controls for a few basic industries but not pulp and paper. Steel



and rubber, for example, are sure bets. It is thought also that price controls, a popular idea with the public, will be on hand before elections and the President has stated that wage freezes will occur at the same moment. It is known, but not announced, that APPA's E. W. Tinker believes the present production strain on the industry is partly false fright by purchasers, and he is firm in its stand for delayed controls by new production announced during July and August, mostly to come into the market in 1951 and 1952.

The big thing to note about the Advisory Committee is that it definitely will develop programs of production and distribution. The WPB of the last war had for duties only the controls over priorities and allocations, and the 1950 committee has those powers, too. It also will be the focal point of contact for eight other government agencies on production and distribution. That is going to be a rough assignment, and doubtless many of these men will have to have "acting" assistants, at least.

This committee (but not all members named below) has been meeting in Washington for more than a year. It is said they will meet monthly (this was decided several months ago) until such a time as they are called to Washington for active

A new division of the Department of Commerce will have authority over priorities and allocations under the Defense Act. It is the National Production Authority, and will be directed by Maj. Gen. William Henry Harrison, president of International Telephone and Telegraph, who will rank as Under Secretary of Commerce. This new combination of initials—NPA—is preparing questionnaires for manufacturing plants at the present time.

duty on allocations and priorities. While there are some brilliant veterans of WPB on the committee, it is chiefly notable for its average of higher rank executives than were found in the WPB of World War II.

Alphabetically herewith, the list spreads over the entire industry: D. K. Brown, Neenah Paper Co.; Hugh Chisholm, Oxford Paper Co.; Leo E. Croy, Marathon Corp.; B. G. Dahlberg, ex-president Celotex; George E. Dyke, Robert Gair Co.; Sydney Ferguson, Mead Corp.; Sydney Frohman, Hinde and Dauche Paper Co.; H. H. Hanson, W. C. Hamilton and Sons; I. J. Harvey, Jr., Flintkote Co.; Eugene Holland, Masonite Corp.; Amor Hollingsworth, Penobscot Chemical Fibre Co.; L. K. Larson, Pulp Division, Weyerhaeuser Timber Co.; M. C. McDonald, Chesapeake Corp. of Virginia; R. A. McDonald, Crown Zellerbach Corp.; A. K. Nicholson, Hollingsworth & Vose; George Olmsted, Jr., S. D. Warren Co.; Irving Osborne, Jr., Cornell Wood Products Co.; Peter S. Paine, New York & Pennsylvania Co.; Cola G. Parker, Kimberly-Clark Corp.; Sidney M. Phelan, West Virginia Pulp and Paper Co.; H. Lee Rauch, Consolidated Paper Co.; J. L. Riegel, Riegel Paper Corp.; Henry D. Schmidt, Schmidt and Ault Paper Co.; Norman W. Wilson, Hammermill Paper Company; W. B. Zimmerman, Howard Paper Mills.

Unquestionably others will be added, and there will be substitutes, as was the case in the last war, which proved that Washington duty was a grueling routine.

Pulp and paper manufacture was already ready on the "essential industries" list, but there was no assurance all segments or all classifications within the segments would stay there, for the manpower shortage was real. Woodlands operations were probably safe, and those in pulp production and service; but exemptions would grow less sure as one progressed toward the end products. This was brightly visible already in the wide exemptions given in the printing and publishing and advertising trades; these simply would not hold water in any flare-up beyond Korea.

Mindful of the toll taken last war by Washington duty, and also that defense experts were demanding dispersal of ac-

(Continued on Page 98)

## NEWS IN BRIEF . . . AND BULLETINS

### KOREA'S EFFECT ON PULP AND PAPER

In the opinion of many observers, the fate of Korea—as it stands on the day you receive this copy of *PULP & PAPER*—should give a clue to the pulp situation: Two or three weeks of good news in Korea would result in an increase of fibers available to mills; bad news would mean a tighter pulp market, perhaps, than yet seen. The Department of Commerce announced Korean defense spending would add 4% to the gross national product, and that pulp and paper can readily meet more than a 4% hike over 1950's first half. Assuming nothing bad beyond Korea, direct and indirect government requirements were expected to be small for remainder of year. This year U. S. paper production will reach the all-time high of 23 million tons, 15% beyond last year, 5% beyond previous top of 1948, said Commerce, assuming no cut-off of raw materials.

### PROGRESS AT PALATKA—TO DOUBLE OUTPUT

J. E. Sirrine Co., Engineers, reports construction well under way for doubling Hudson Pulp & Paper Corp., kraft capacity at Palatka, Fla., including new separate unit for lightweight papers. New 234-in. Pusey & Jones Fourdrinier MF and MG kraft machine to have 12-ft. Yankee; 33-60-in. paper and 14 felt dryers; wire drive as well as couch roll, 8-roll stack and new type tile-lined wire and wet broke pit. J. O. Ross Engineering supplying extensive air supply and exhaust systems. Other new additions: An oil and a refuse burning boiler; 7500 kw. effect evaporator; barking drum; chipper; five 10-ton digesters with indirect cooking; three brown stock washers and deknotters; three rotary screens; flat screen; vacuum decker; two 3-roll beaters. A 12-million g.p.d. water treating plant will be the first for Palatka.

### WHEAT PULP IMPORTS FROM ITALY

Something new has been added to the pulp import figures which have been rising to unusual heights in 1950, due to a combination of world factors. Wheat straw pulp is coming into the U. S. in small quantities—from the Cartiere Burgo mill in Milan, Italy. It is used as furnish with wood pulp by at least two eastern U. S. mills. There are reports of renewed investigations of wheat straw pulp as a "mix" by at least one large pulp and paper concern. Results for glassine are said to be good.

### ADDITIONS FOR INTERNATIONAL PAPER CO.

IP recent news: Additional machine coated paper production on machine at Hudson River mill, capacity 28,000 tons a year, will not start until after first quarter of 1951—a Ross Engineering extension of hood over "after coating dryers" now being built. Further expansion of IP conversion announced with two new Pure-Pak paper milk carton plants to be completed in 1951 at Atlanta, Ga., and Kansas City, Kan.—total output 45 million containers per month. D. D. Milson to be manager at Atlanta; C. S. Sturgis at Kansas City. IP's 80% expansion of Moss Point, Miss., mill mainly for milk container stock with new Beloit 200-ton daily machine ordered, was announced in *PULP & PAPER* last month.

### SULFITE LIQUOR CONCENTRATION IN EAST

Concentration of sulfite waste liquor is taking place in pilot plant of Struther Wells Corp., at Warren, Pa., 60 miles southeast of Erie. This organization has installations in other fields which exceed 10,000 tons per day of heavy and fine chemicals, as well as organic materials. Two lab tests on liquor from two sulfite mills have been run up to four days, and it is claimed heating surfaces remain clean. This month another run being made, concentrating 10% waste liquor from Hammermill from 10 to 50%, and reportedly there is no change in heat transmission co-efficients, according to Hans Svane, manager of the crystallizer department of Struther Wells.

### IMPORTANT ADDITIONS AT WEST LINN MILL

Construction began in August at Crown Zellerbach's West Linn, Ore., mill on new concrete and steel wood mill, new peroxide groundwood bleach plant for coated paper pulp supply of 62½ tons daily capacity, and water filter plant addition to increase g.p.d. capacity from 12½ to 14 million. New Sumner Iron Works band headrig, replacing circular headrig and modern twin band ripsaw, replacing conventional edger, and complete electric-powered sawmill come first. Later—hydraulic barker, whole log chipper and screens. Groundwood bleach unit, to start up in spring, will be placed in present sulfite bleachery; will have tower type cell, Imco 8 x 16 ft. washer, extractor, feeder and agitator. L. H. Hoffman, Portland, Ore., has contract for bleach plant; wood mill contract to be let late September. Malcolm J. Otis is West Linn manager.

### NEW MILL FOR THE PHILIPPINES

Philippines Paper Mills, Inc., Manila, a new corporation, expects by Jan. 1 to have a 25-ton daily \$350,000 mill in operation, producing chipboard, and later, other grades of paper and board, according to Robert W. "Bob" Stevens, consultant and technical advisor to Adamson, Inc., exporters, Los Angeles and Manila. A 4-cylinder machine for the mill is an assembled job, with a new Shartle Dilts 7 ft. Hydropulper, E. D. Jones & Sons high-speed jordan and Fairbanks Morse motors. Forming vats were designed by Mr. Stevens.

### Two Deaths in Midwest

Two men widely known in Midwest and national meetings died suddenly as we went to press.

C. B. Smith, veteran Noble & Wood salesman in the Midwest, died at his Kalama home, Sept. 6.

G. Harold Young, only 48, Midwest-Fulton's drying specialist and vice president and chief engineer, died Sept. 5 after an operation at Dayton, O.

### Tommy Gillespie Dies At Illinois Lake Home

Thomas M. Gillespie, one of the best known salesmen in the Middle West pulp and paper industry, who had toured mills from the Alleghenies to Colorado for 20 years, died at his Lake Villa, Ill., home Aug. 26, after a long battle against a circulatory ailment.

His wife, Edna, had been with him night and day for a long period at a Chicago hospital and brought him home just the day before he died. The funeral was Aug. 29 from the house. Instead of flowers, a fund was arranged for the Shriners' Hospital for Crippled Children, 2211 North Oak Park, Chicago 35, c/o Alice E. Snyder.

Mr. Gillespie, who represented Lockport Felt, Cheney Bigelow and Wyandotte Chemicals, was widely known in the mills for his brilliant wit and physical ruggedness, for he had been an internationally famous defense man in championship professional and amateur ice hockey, a star in Madison Square Garden and other rinks for years. He was born in Perth, Canada, and his mother, sisters and a brother in Ontario survive. His wife, Edna, was a former Broadway actress. He started in the industry out of New York, selling chemicals, but moved to Chicago in the early '30's. He purchased his farm home on Lake Villa in 1946.

James J. De Young, of Appleton, Wis., has been his assistant and sales representative since early this year.

### Beloit Iron Works Names New Engineering Chiefs

Lloyd Hornbostel, vice president in charge of engineering at Beloit Iron Works, Beloit, Wis., announces that E. D. Beachler has been appointed chief engineer. Additional changes in the executive engineering staff were made through the appointment of Lon Neese and Sterling Skinner as assistant chief engineers.

### Tenn. Eastman Expansion

According to a press report, Tennessee Eastman Corp. has begun construction of an addition to its plant at Kingsport, Tenn., for the manufacture of acetate rayon filament yarn. It is a user of rayon wood pulp. Production will increase the company's capacity by about 5%.

### Cool Reception for Rationing

According to Editor & Publisher, whose opposition has been made clear editorially, the proposal of Rep. Emanuel Celler, N. Y. Congressman, for early rationing of newsprint is not gaining support among other legislators and officials in Washington.

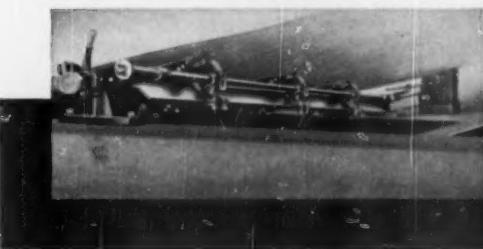
# **Don't Let Dirty, Unconditioned Press Felts Put A Sign on Your Paper Machine...**

Nowadays, there's no excuse for mid-week shutdowns to wash clogged felts. The faster machines are operated the greater the production loss from needless shutdowns.

Vickery Felt Conditioners have kept pace with faster felt travel and the increasing need for continuous and con-

tinuously efficient felt operation. They keep the felts in shape to absorb the maximum amount of water at the presses, thus speeding dryer operation as well as saving steam. Paper finish is more uniform, too.

You need continuous conditioning for every press felt. Ask us for layouts and estimates.



**BIRD MACHINE COMPANY  
SOUTH WALPOLE - MASSACHUSETTS**

**THE VICKERY  
FELT CONDITIONER**

# LEE PAPER CO. ADDS MACHINE

## High Grade Papers Will Be Made

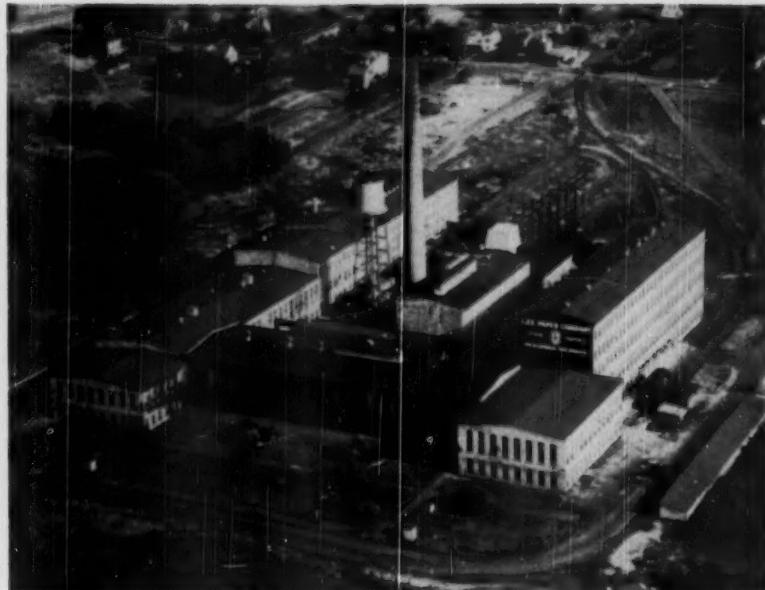


MAXWELL D. BARDEEN (above), President and General Manager, Lee Paper Co., Vicksburg, Mich., is shown in pilot cabin of power shovel officially breaking ground for the largest expansion of his company since it was founded in 1904. Upper right: Air view of Lee Paper Co. fine paper mill, where third machine and other additions are to be made. Below, right: A group picture at ground-breaking ceremonies, with Mr. Bardeen standing at extreme right.

A new 130-inch Beloit Fourdrinier paper machine, with auxiliary equipment, designed to make the highest possible grade papers, is being rushed to completion for 46-year-old Lee Paper Co., at Vicksburg, Kalamazoo county, Mich. The mill now has two 121-inch Fourdriniers with capacity of 40 tons daily of rag bonds, ledger, onion skin and sulfite and other specialties.

"This is the largest expansion since the company was founded and the amount to be expended is approximately \$1,000,000," Maxwell D. Bardeen, president and general manager, told *PULP & PAPER*.

"This particular step is the final one of a series which began with the rebuilding of our power plant in 1946; additions to our stock preparation capacity in 1947, and to our finishing capacity in 1948," he explained.



The new machine will carry a 75 ft. long wire; will have 42-48 in. diameter dryers, size tubs, etc. Complete J. O. Ross Engineering hoods and exhausts for machine and auxiliary processing are ordered.

A building adjacent to, and immediately north of, the present machine room, is being built to house the new addition by Miller-Davis of Kalamazoo. This addition is to be 216 ft. long and 114 ft. wide, of two stories.

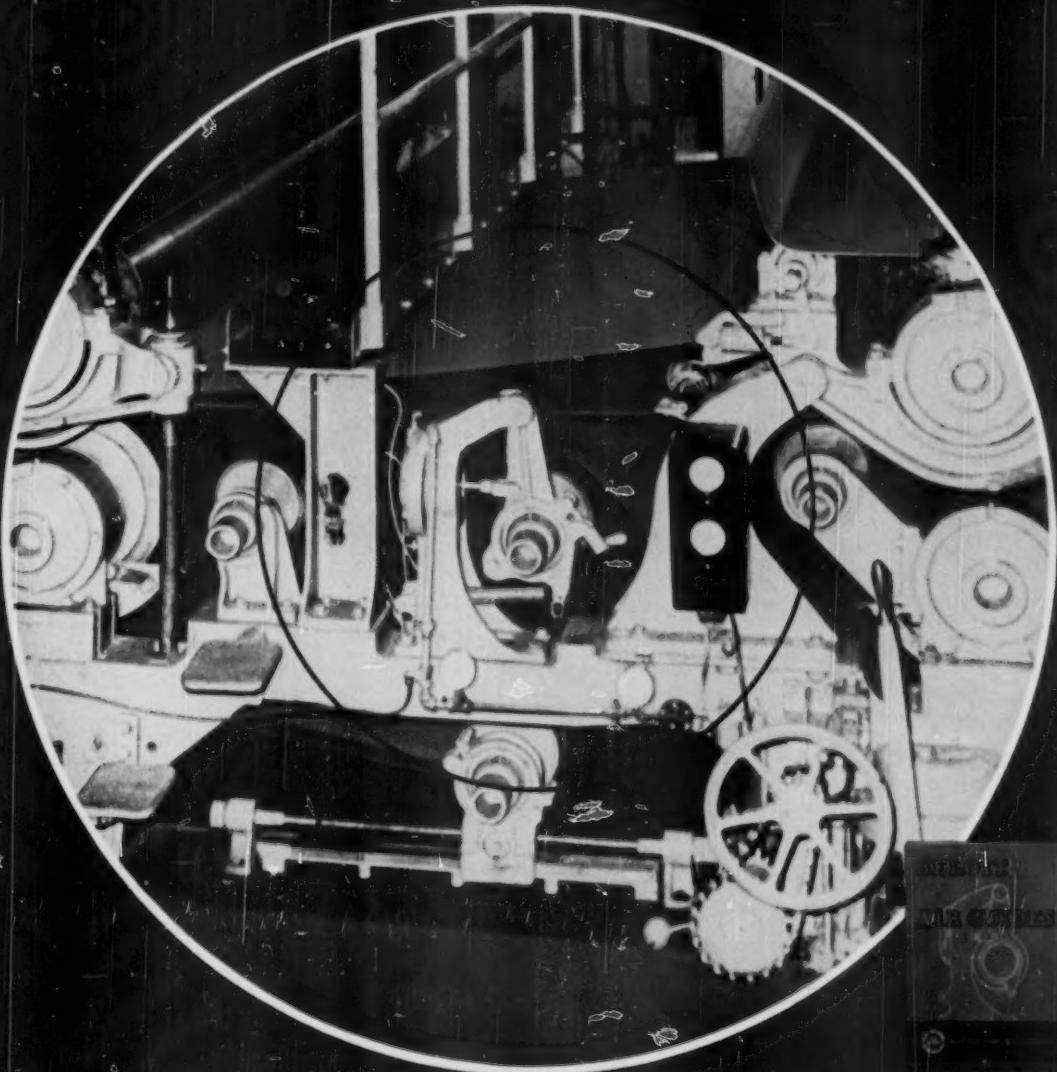
Pictures on this page show an air view of the present mills and scenes at ground-breaking ceremonies.

Other Lee officials are R. D. Nugent, first vice president; M. W. Taylor, second vice president; Byron Bishop, secretary; W. J. Comstock, treasurer. Ralph Atkins is general superintendent and Norman Bardeen, sales manager.

### Jacksonville Meeting Plan; Vranian Will Preside

Henry Vranian, technical director and chief chemist, Chesapeake Corp., West Point, Va., has been selected as new chairman of TAPPI's alkaline pulping committee and he will be the chairman of Alkaline Pulping Conference to be held Oct. 25-27 at the George Washington Hotel, Jacksonville, Fla., with a full day tour of the new Hudson kraft mill at nearby Palatka on the final day.

R. R. Fuller of Gulf States Paper Corp., Tuscaloosa, Ala., is arranging a program to feature causticizing, lime burning, pressure washing, oxidation of black liquor and kraft pulp refining. E. A. Harper, of the Hudson mill, is chairman of arrangements, assisted by Karl Guest, National Container, Jacksonville.



Send for this new  
Illustrated Story of Beloit  
Air Diaphragm Guides

### Air Diaphragm Guide . . . smooth, accurate, positive

Smooth, positive operation and ruggedness are among outstanding characteristics of Beloit Air Guides. Designed with simplicity to solve difficult guiding problems in a variety of applications, these Guides are a current development contributing to increased manu-

facturing efficiency in progressive paper mills. Air Guides are adaptable to any standard felt roll, eliminating odd spares. Special unit can be mounted on existing swing arm guides without replacing arms, guide rolls, or back stands now in use. — *Beloit Iron Works, Beloit, Wisconsin.*

WHEN YOU BUY BELOIT . . . YOU BUY MORE THAN A MACHINE!



**BELOIT**  

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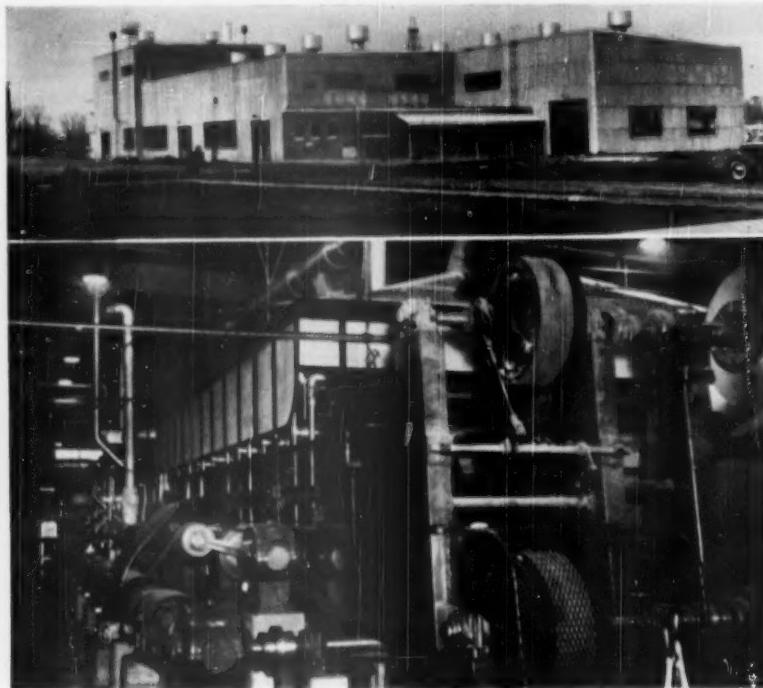
**PAPER MACHINERY**

# Felt Plant for South

## New Bird Mill Makes 70 Tons a Day



TOP BIRD & SON CO., INC., Executives snapped by PULP & PAPER at the company's Shreveport, La., Division. L to r.: E. L. CHAMBERLAIN, Vice Pres. in charge of Roofing Division; R. A. WILKINS, Vice Pres. in charge of Paper and Felt Division; CHARLES SUMNER BIRD, JR., Chairman of the Board, and H. L. ANDERSON, Company President. They came from company's East Walpole, Mass., headquarters to see their new felt plant in the South, and their visit coincided with call by PULP & PAPER's editor.



NEW FELT MILL (above) OF BIRD & SON, INC., at Shreveport, La., and 60-inch Beloit-rebuilt cylinder machine which has produced as high as 70 tons per day (below). The machine view shows Ross Engineering Hood and vent piping; Pusey & Jones dryer section; Beloit gears for General Electric turbine drive. Link-Belt furnished roller chain.

While the pulp and paper industry has stepped forward during the past number of years in improved production methods its cousins—the roofing felt and wallboard mills that utilize wood in whole or in part—have also kept pace. One of the most recent examples of this

corollary advancement is the new felt mill erected by Bird & Son, Inc., at Shreveport, La., visited recently by PULP & PAPER, where a 50-70 tons-per-day Beloit-rebuilt cylinder machine with much other new equipment is operating. In speaking of a felt mill in the South

it is not amiss to think of members of this branch as "cousins" because of the extremely large units of kraft paper production. Within the area are mills producing high quality writing, coated paper, dissolving purified pulp, and newsprint, as well as the usual kraft grades.

The felt mill produces a product coming from a mixture of rags, waste paper, and chipped wood, processed in machinery familiar to every pulp mill operator.

Bird & Son has long been known in the paper trade. Initially started in 1795 by George Bird as a papermaking enterprise in Needham, Mass., this venture was passed to his son Francis W. Bird; finally to a great grandson, Charles Sumner Bird, Jr., now chairman of the board. In 1918, the company was incorporated. Along about the time of the battle of New Orleans (1812), the plant was transferred to East Walpole, Mass., where headquarters are still maintained.

Although it produced paper upon which earlier currency was printed, the Bird enterprise did not remain entirely in the paper field but over the years branched into conversion. Now it produces a line of special papers, solid and corrugated fiber shipping containers; felt base floor coverings and linoleum; and a full line of asphalt roofing products.

The East Walpole plant products paper, roofing and floor coverings; at Phillipsdale, R. I., is located a felt mill and insulating board plant; at Chicago, Ill., a roofing plant; and at Shreveport, La., first a roofing plant and now the supporting felt mill.

The name "Bird" is also familiar to the paper industry because of the products of Bird Machine Co., a collateral development from the original enterprise in which Bird & Son, Inc., holds a stock interest.

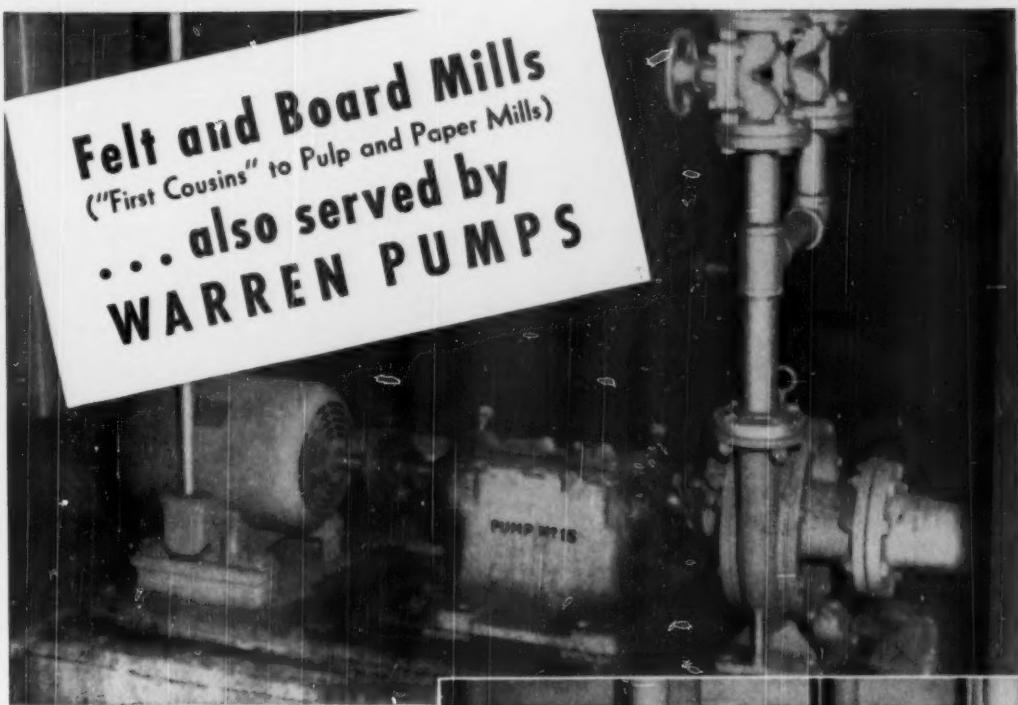
Ground was broken for the Shreveport felt mill Feb. 1, 1949, and though the original sights were set for production on Feb. 1, 1950, it actually began 7 minutes before midnight Nov. 30, 1949. Consultant in design and construction supervision was the firm of Rust Engineering Co., Pittsburgh, Pa. Production design was set for 50 tons per day but with actual experience as high as 70 tons.

### Flow of Operation

There are three stock production lines at the Bird plant culminating in a Bird stuff box and consistency regulator. Rags and waste paper are received on a large concrete east side apron, being brought into the plant as needed by a fleet of Clark True-tractors.

The rags go through two Taylor-Stiles rag cutters; thence to three 56x48 inch Dilts rag beaters of 1200 lb. capacity

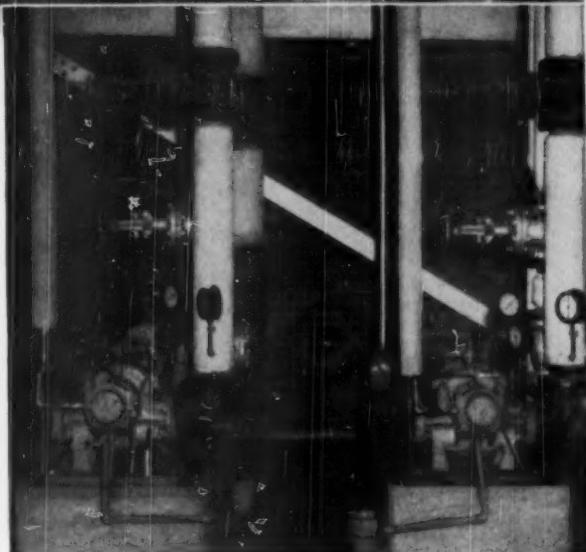
**Felt and Board Mills**  
("First Cousins" to Pulp and Paper Mills)  
... also served by  
**WARREN PUMPS**



. . . and keeping pace with expansion and improved production methods is Bird & Son, Inc., East Walpole, Mass., Phillipsdale, R. I., Chicago, Ill., and now a new felt mill at Shreveport, La.

Over the years it has been our privilege to have supplied the Bird mills with Warren Pumps for various types of services and our installations in the new Shreveport plant include pumps for handling:

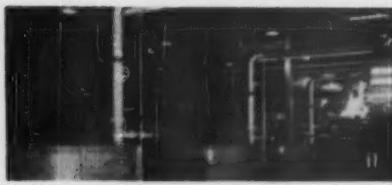
- 3½% Dirty wastepaper stock
- 3½% Semi-liquid chemical wood stock
- 3½% Refined liquid felt stock
- White water
- Fresh water
- 10% Caustic solution
- Boiler Feed
- Boiler make-up water



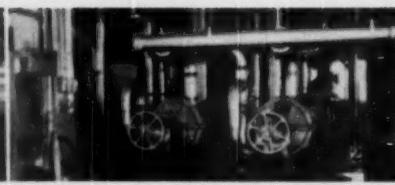
Top: Warren Pump Handling Caustic Solution. Bottom: Boiler Feed Water Pumps  
Modernization or expansion, Process or Power Plant, Pulp, Paper,  
Felt or Board Mills . . . it will pay you too, to specify:

## **WARREN PUMPS**

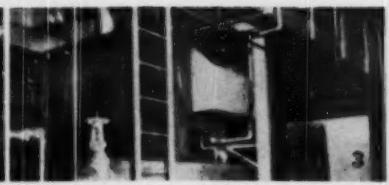
**WARREN STEAM PUMP COMPANY, INC., WARREN, MASSACHUSETTS**



**BIRD & SON FELT MILL VIEWS:**  
1—THREE DILTS MACHINE WORKS beaters for handling rag stock.



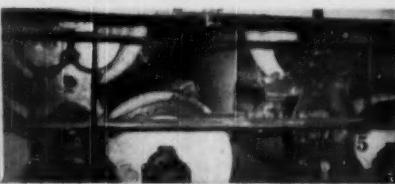
**2—NOBLE & WOOD** jordan—one handles rag stock, the other waste paper-wood stock. Note fine piping and conduit job.



**3—BIRD MACHINE CO.** screens ahead of cylinder machine. Crane valves, as shown in foreground, were widely used.



**4—GENERAL ELECTRIC** 250-lb. pressure steam turbine drives Bird & Son mill felt machine.



**5—BIRD MACHINE CO.**'s Vickery doctor shown here in Pusey-Jones dryer section of machine at Bird & Son Shreveport mill.



**6—LANGSTON WINDER** completes felt production line at new Bird & Son mill.

each (total daily capacity 75 tons) furnished by Shartle Bros. division of Black-Clawson Co. Waste paper is fed into a Dilts 64 x 60 inch continuous breaker beater.

Pulpwood, which may be either hardwood or pine, is fed to a ten-Heppenstall-knife Carthage chipper by a Link-Belt conveyor and then elevated to a storage silo. This silo surmounts an Asplund Defilitrator with B-K Reaction Chamber (Chemipulper) supplied by Paper & Industrial Appliances, and is then blown through copper piping by process exhaust steam to a wood storage chest.

As needed, the wood fiber is drawn from its storage chest and serviced by Hermann Claflin refiner, then sent to stock blending. The rag stock goes through a Noble & Wood "Bull Dog" Jordan thence to blending with wood and old paper stock. From this blending, the combined stock passes through a second Noble & Wood Jordan, thence to the machine chest. From here it passes to a settling trough, thence through three Bird screens. Rejects from the screen go to an IMPCO flat screen, accepted stock returning to the settling trough. From settling and screening the stock goes to the machine.

Clarification of process water is effected by putting it through two Bird Machine

Co. savealls. The screening system is equipped with Bird showers.

After final screening, the stock passes to a Beloit headbox and a vat with a 60-inch diameter by 169-inch long cylinder. This is a cylinder machine, which has been extensively rebuilt by Beloit Iron Works.

As in a typical cylinder machine, this unit passes the stock to three plain presses and twenty-seven 60-inch diameter dryer rolls, and a 5-roll calender stack. The felt is handled on a two-bar Beloit reel, one reel receiving the felt while the other supplies the rewinder.

The reel is powered by two Horton variable speed air-cooled clutch pulleys on one side to drive the bars, and has two Horton governor controlled brakes, supplied by Horton Mfg. Co., Minneapolis. The rewinding is effected on a Langston two-drum unit powered by a Horton variable speed clutch pulley which is spring-actuated. Though the machine is now producing 144-inch felt it can produce a trim width of 155 inches. The machine speed is variable between 30 to 300 feet per minute. It is equipped with Vickery doctors for dryer rolls and conditioners for felt, furnished by Bird Machine Co.

The felt machine is driven by a General Electric Co. steam turbine with steam pressure of 250 pounds. Its power is transferred to the machine by a Beloit

drive shaft with Link-Belt roller chain. The exhaust steam is used in the driers at 70 to 76 pounds pressure. Drainage is by Midwest-Fulton.

The felt machine is serviced by the latest type Ross Engineering Co. Vapor absorption system and hood.

Electrical power is purchased, and is distributed through three centers; the electrical room, which is equipped with Westinghouse and ITE cubicle control units; the chipper room, with Westinghouse cubicle control; and the boiler room, also equipped with Westinghouse cubicle control. The larger electric motors for the plant came from General Electric; the smaller general purpose units from Westinghouse, the business being about equally divided. Push button control is provided throughout the mill.

Steam is provided by a gas-fired automatically controlled Riley-Stoker Corp. (Worcester, Mass.) 250 lb. pressure 50,000 lbs. per hr. boiler. This installation also serves the roofing plant, which is separate. The power plant installations also include a Gardner-Denver compressed air unit; Warren Steam Pump Co., boiler feed pumps; Bailey automatic gauge and control; Elgin Softener Corp. boiler water conditioner; and Foxboro vernier valvulation and stabilizer valve.

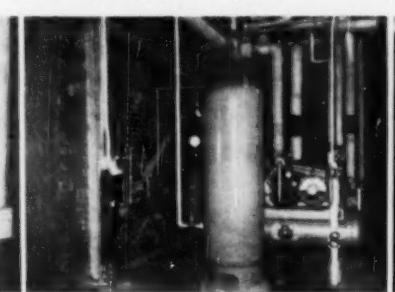
#### Personnel

L. L. Williams, the plant manager, is

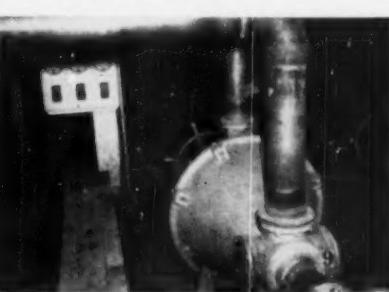
9—HERMANN CLAFLIN REFINER handles wood stock before blending with rags and waste paper at Bird & Son felt mill.



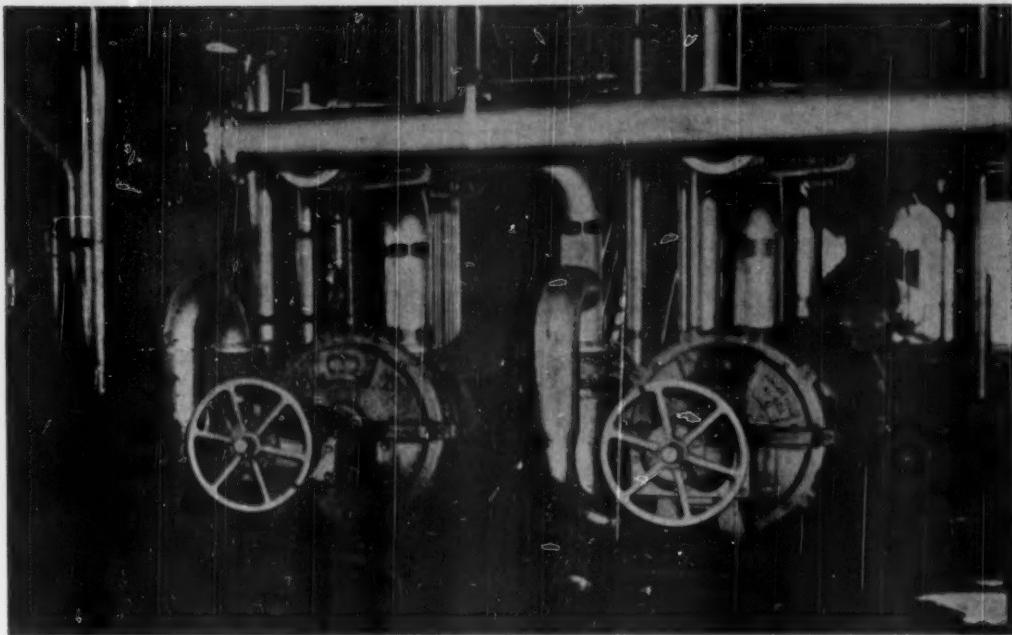
**7—FOXBORO VERNIER** valvulation and stabilizer valve in boiler room at Bird & Son mill.



**8—GARDNER-DENVER** boiler room installation delivers compressed air at Shreveport.



**9—HERMANN CLAFLIN REFINER** handles wood stock before blending with rags and waste paper at Bird & Son felt mill.



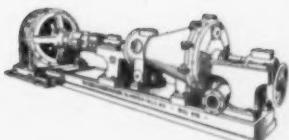
## *Another BULL DOG JORDAN INSTALLATION* in a BIRD and SON MILL

These two Noble and Wood Bull Dog Jordans are running in the new Bird and Son's roofing and felt mill at Shreveport, Louisiana. Bull Dogs are not new to Bird and Son. They have been using them for years in their other mills and are thoroughly familiar with the dependable performance of these special purpose Jordans.

These short, sharply tapered heavy duty Jordans are especially designed for rag stock and other tough furnish requiring exceptional cutting action.

Noble and Wood Bull Dogs are running in practically every roofing and felt mill in the United States and Canada. Bull Dogs are the Jordans for rag stock, coarse screenings, and other tough furnish. They stand the gaff.

Write us for more information regarding the Bull Dog Jordan.



### THE NOBLE & WOOD MACHINE CO.

*Pulp and Paper Mill Machinery*  
MOOSICK FALLS, N. Y., . . . U. S. A.



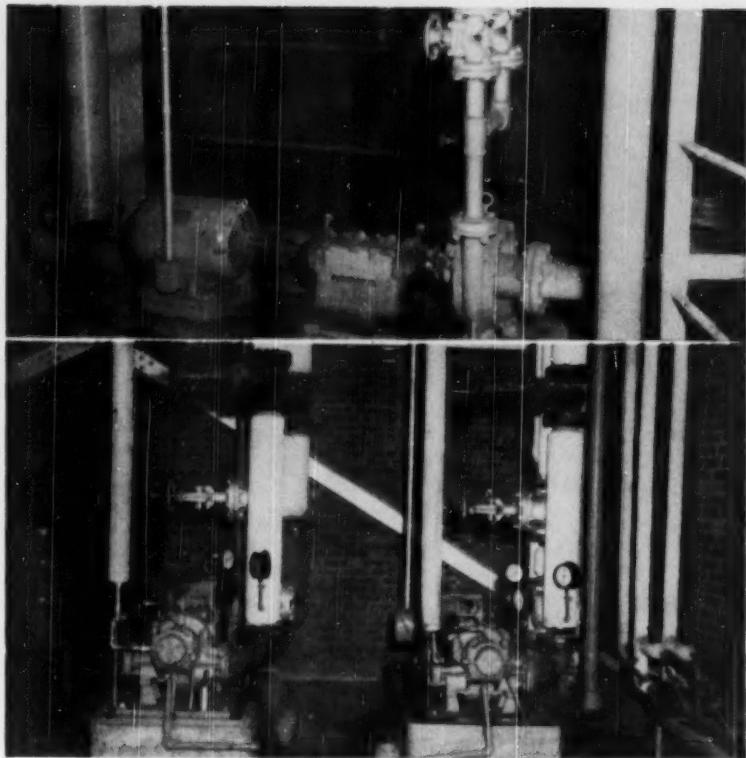


L. L. WILLIAMS (left), Manager of Shreveport, La., plants of Bird & Son, Inc., and B. P. SOWARD, superintendent. A new felt plant has been added to roofing plant.

a native of Montana and a graduate electrical engineer from Armour Institute (now Illinois Institute of Technology). He joined Bird & Son at its Chicago plant in 1921. After being with the company and then going elsewhere he came back in 1934 as manager of its built-up roofing division. He was transferred to Shreveport in charge of that plant in 1941. He handles production and sales.

B. P. Soward is superintendent of both the roofing and felt plant at Shreveport.

Officers of Bird & Son, Inc., in addition to Charles Sumner Bird, Jr., include the following: A. H. Anderson, president; R. A. Wilkins, vice president in charge of the paper and felt division; E. L. Chamberlain, vice president in charge of the roofing division; H. E. Sawyer, vice president in charge of the floor covering division; and, W. C. Ahlgren, treasurer.



TWO VIEWS OF WARREN STEAM PUMP units and how they are used at new Bird & Son felt mill at Shreveport, La. Top—Pump unit with Westinghouse motor for handling caustic. Below—Warren supplied this brace of feed water pumps.

### 3 NEW ARGENTINE MILLS PLANNED

#### Kinsley-Noble & Wood Project Adopted

By decree of the Ministry of Industry and Commerce the Republic of Argentina is to have three new mills which will—by signature of Peron—launch that nation's newsprint industry via "the utilization of natural growths" to make from bagasse and wheat straw for paper, suitable for newspaper use. The government's approval has gone first to Fibrocel Argentina S. A., which based its proposal on the process of The Kinsley Chemical Co., Cleveland, O.

Joseph Glenn Weimer, official of the group comprising a collaboration of Kinsley and others, and world authority on annual grasses for industry, told PULP & PAPER, in his New York office, that the event heralds a very much broader market for U. S. machinery and chemicals in South America and pointed out its value to a tight newsprint supply.

Able to take personal credit with Mr. Weimer is Frank Hayes, veteran sales manager for Noble and Wood, this month elected to the board of Kinsley and made vice president in charge of engineering and procurement. Inasmuch as in recent years he has become expert on the road from Washington through the U. S. to the capitals of the southern countries, he

should be ideal for the job. Until now, at least, he has sandwiched it all in with the full time job of sales manager for Noble & Wood, pulp and paper machinery firm, which is also allied with the group which last spring made its newsprint demonstration at Chemical Fibre Paper Co., Holyoke, the second of such "pilot" runs, the first being on wheat straw pulp. Sample newspapers of good world quality, though not U. S. standard, were printed on standard presses in large editions.

A short time ago Mr. Hayes told this magazine at Hoosick Falls, N. Y., where Noble and Wood is located (and he retains post of sales manager), that several South American countries have been very "long-headed" on the newsprint situation. Argentina, for example, was investigating annual growth grasses long before the current tight supply on the commodity. Generally it is known South America has expected to be cut off from imports of certain vital commodities from U. S. and other nations as may be involved in war economy.

Mr. Hayes' firm will provide the pulp preparation equipment, having worked in the combine in research pilot operations.

Millard Hayes, no relation to Frank, returned from Argentina recently where he left paper machinery plans and estimates with Fibrocel for Sandy Hill Iron and Brass Works, Hudson Falls, N. Y. Last month, in New York, where he and his son were taking in a few ball games, he informed PULP & PAPER that his enthusiasm for the future South America as a far broader wood-using continent has grown swiftly.

"They have not only great timber areas," he said, "but have had to reach out for new raw supply in grass crops, and are making progress."

Where South Americans have been practical, of necessity, on grass study, is in study of growth, collection as well, and on a practical cost basis. The U. S. Department of Agriculture work at Peoria, Ill., on use of "agricultural residues," has been of inestimable value, as have the Herty projects in Georgia, and others. Business men below the Panama Canal have thought of grasses not only as "residue" raw supply but "substitute for tree crop" as well. Into their calculation have gone the vital questions of soil vitality.

The Kinsley group have been careful to avoid giving an impression that the process makes newsprint equal to better U. S. grades, but point out that the "paper suitable for newsprint use" is a completely satisfactory mass product acceptable to the educated of many nations.

# CHERRY RIVER DAYS ARE RECALLED

## "Robbie" Was Production Manager



PULP & PAPER in his headquarters at 420 Lexington Ave., New York.

Familiarly known as "C. P." or "Robbie," his 40 years in the industry have made him one of its most widely known figures. He says it's 40, though he doesn't look it. He has completely recovered from a recent illness and vigorously resumed his activities as manager of sales for Heppenstall knives, for which he introduced solid alloy steel knives to the industry several years ago, and for Kidder Press, for whom he is special representative to paper mills for their slitters and rewinders.

As manager of Heppenstall's knife sales to the industry, his wide influence is at once demonstrated by the representatives under his direction. For example, Robbie recalled his first meeting with Ray Smythe, representative of Heppenstall at Portland, Ore., 3,000 miles across the continent. Among the other representatives who look to Robbie for guidance in their knife sales are:

Murray-Baker-Frederic, New Orleans; John D. Robinson Co., Savannah, Ga.; Milke and Bemm, Milwaukee, Wis.; Brace-Mueller-Huntley, Toronto, Ont.; Ray Smythe, Portland, Ore.; as well as the Heppenstall district offices that handle knives, such as those located in Boston and Detroit and other cities.

His background on knife sales is his background in the industry. On the Pacific Coast, for example, he was well acquainted with Rayonier, Crown Zellerbach, Coos Bay, and other mills which he represented years ago as a pulp sales representative and which now are among his customers for knives.

Robbie was born in South Jersey in a community called Salem, a Quaker town and one of the oldest in the U. S., established in 1675. His family was one of the founders.

Some of Robbie's newer acquaintances do not yet know of his interest in music, which is a family characteristic. He plays various instruments and was a leader of the first public high school band in the U. S. at Salem. As a boy, he was a member of a nine-piece family orchestra. Mrs. Robinson herself is a gifted musician, a graduate of the Pennsylvania Academy of Fine Arts of Philadelphia, from which she won a scholarship abroad. They have

lived in Mountain Lakes, N. J., for 32 years.

Their daughter, Kathryn Ann, a graduate of Oberlin College and graduate student in music from Syracuse University, now is working toward a Master of Science degree in voice at Juilliard School of Music in New York.

Robbie worked in Philadelphia but a few blocks from the art school where his future wife was enrolled. But they did not meet until both were in West Virginia, and it was on a tennis court.

With a famous musician, Sigmund Spaeth (they were both New York Kiwanis Club members) Robbie organized the first barber shop quartet in the U. S. Maybe you do not know what a triple-tongued trumpet player is, but it is something pretty special in the musical world, and Robbie was one as a boy. A scout for the U. S. Marine Corps band, led by John Philip Sousa, pleaded with the boy to join the band. Robbie was willing, but his father objected.

Robbie began in the industry as production manager at the Cherry River mill, later purchased by North Carolina Pulp Co. and moved to Plymouth, N. C., machinery, personnel, and all. This mill was affiliated with Cherry River Boom and Lumber Co., which owned the timber and coal resources and railroad.

The late J. G. Armbruster, former general superintendent at the Soundview Pulp Co. in Everett, Wash., was night pulp superintendent at Cherry River, Robbie recalls.

The old mill used spruce and hemlock and made chiefly wrapping and tag stock. Many men now well known in the industry worked there, among them George M. Snyder, production manager at St. Regis' Pensacola mill; Jack Lyden, resident manager of the Southern Kraft IP mill at Georgetown, S. C.; the Rozyskie brothers, Adam, now at Georgetown, and Albert, the resident manager at Cullendale, Ark.; Joe Janecek, superintendent at Inland Empire Paper Co.; James Clemmons, now retired, who was vice president of Hummell-Downing Co. as well as Hummell-Ross, and Roland Wilber, now manager for the new Potlatch Forests mill at Lewiston, Idaho.

Many people may be surprised to learn that Richwood, the town near the Cherry River mill, was once a ghost "metropolis." This was between the time Robbie used to go into town on Saturday nights from the mill to raise a little fun with the loggers out of the forests of West Virginia and the time the mill was moved to North Carolina. It was a typical Southeast lumber town then, but later veins of soft coal were discovered in the area after the departure of the Cherry River mill. This is in the region of the Hatfields and McCoys, Robbie recalls, and some of them worked in the mill. The town, two miles from the

paper mill, was noted also for its tannery. It is a relief to note that while Robbie came into town every payday, he also was a singer in the choir. When the coal vein ran out, Richwood became a ghost town, but today is once again a thriving community of about 3,000.

Robbie recalls there were very good baseball teams there in the old days, and good players from the University of West Virginia at Morgantown were frequently persuaded during the summer to work at the mill because of their ability on the diamond. Among these was a young fellow by the name of Roland Wilbur, who, as we mentioned, is now the new Idaho mill manager.

Upon his return from a recent trip to mills, the ex-pulp salesman reported they were at full capacity, but many were short of pulp. "I could have sold a lot of pulp," said Robbie, with a reminiscent smile, "If I'd had any to sell."

GEORGE OLMSTED, JR., and E. W. TINKER, president and executive-secretary, respectively, of APPA, were guest stars on NAM's national broadcast, called "Your Business Reporter," recently. From 200 local stations some 25 million people (the radio man said) heard some basic facts about the sixth industry of the U. S. on the eve of possible world conflict.

D. S. "STEVE" CONEY, personnel supervisor, Crown Zellerbach Corp., West Linn, Ore., and wife Jane, have announced birth of a son, Zachary Stephen, on Aug. 2, at Portland, Ore., Emanuel Hospital.

JOHN TOWER, who comes from the Pacific Coast where he was with Lockheed Aviation, has been appointed public relations director of International Paper Co., 220 E. 42nd St., N. Y. He succeeds Tommy Harris, who has now retired and is living in Florida.

### Chief Engineer Foster of KVP Co., Dies

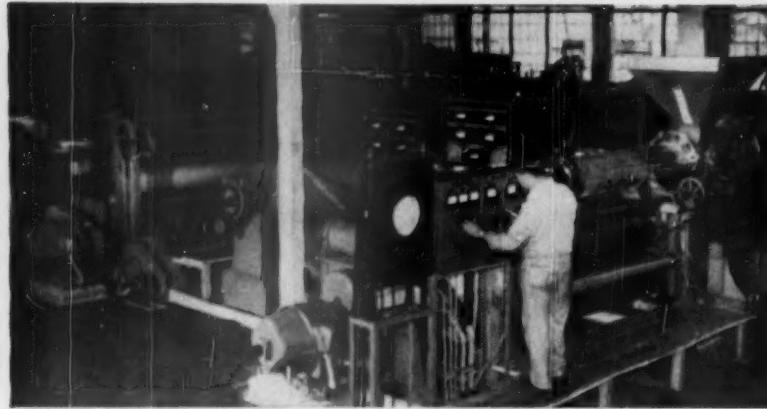
Samuel Foster, in paper mill engineering for 40 years and chief engineer of the Kalamazoo Vegetable Parchment Co., Parchment, Mich., since 1944, during which time he helped guide many projects, including the building of KVP Ltd's Espanola, Ont., mill and the new plant for Appleford Paper Products at Hamilton, Ont., died on July 2.

He was buried at Starkville, Miss., his birthplace. He earned his mechanical engineering degree at Mississippi State in Starkville and studied at Cornell, and his first job was at the International mill in Palmer, N. Y.

He made engineering studies on yields and losses at many IP mills and was plant engineer for the group at Ticonderoga, N. Y., then engineer and later manager at Rumford, Maine. He was resident manager of Union Bag's Hudson Falls, N. Y., mill and with Sandy Hill Iron & Brass Works before joining KVP.

His sons, Sam Lattimore and Arthur Foster, are engineers for Southern Kraft Division of IP. Another son, Paul, is with KVP in accounting. Two daughters, married, and his widow, also survive.

## KRAFT COATER AT CARTHAGE



ST. REGIS HAS INSTALLED THIS NEW POLYETHYLENE COATING MACHINE at Carthage, N. Y., plant, and thus tripled its kraft coating facilities. Shown is 10-ton equipment designed and built by St. Regis with Reliance drives, motors and controls. The dry plastic feeds into hopper, is reduced to liquid by hot-melt process in screw feeder to right of operator, and makes application by electrically-controlled rollers.

When polyethylene was discovered by British chemists in 1936 it was in the face of urgency, and its most interesting property was in the field of electronics and electricity. But the installation last month of a new 10-ton polyethylene coater at the Carthage, N. Y., bag plant of St. Regis Paper Co., dramatizes the fact that this plastic has become an important adjunct to the paper industry, and particularly so in war time.

The latter consideration is emphasized by the fact that today only 55,000,000 lbs. of polyethylene are made on annual production. At least three other paper companies use it as coating and, of course, it has other demands. Last year only 15,000,000 lbs. were made; the sharp rise is due to new plants. But it is evident from the addition of its second coater that St. Regis feels it can get adequate supply. The reason is strong enough: Polyethylene protective wrap is important for transportation of military materiel to prevent corrosion; other war utilizations are known or expected. And since food is vital in war as in peace, thermoplastic protective barrier ply in kraft paper doubtless would be on the essential list without the military.

The new Carthage coater, which triples St. Regis production of polyethylene coated papers, was designed primarily by St. Regis engineers and ranges in speed from 50 to 600 feet per minute, depending on thickness and adhesion required. Three thousand pounds of coated stock per hour are possible in widths up to 90 inches. A smaller machine at Oswego has a 1,000 lbs. capacity and 54-in. trim. Commercial coatings on the new machine, a 10-ton affair operated by Reliance motors and drives with control board, can produce coatings for commercial use from one-half to seven mils. Most commercial coatings today are 1½ mils, about equal to 20 lbs. of the plastic to a ream of 24x36-inch paper. Experts say 5-lb. coatings will be commercially feasible, although so far 15 lbs. is the lowest attempted in the multiwall bag field. The machine at Carthage employs the hot-melt process, and the plastic in powder form goes into

the hopper at right of the operator, is electrically reduced to liquid form in the worm-drive tube through which it travels to make the initial rollers. The coating takes place on a series of rolls, and paper moves to the dry end for rewinding and slitting.

St. Regis has worked with both du Pont and Bakelite in developing polyethylene coatings. "Poly-Wrap" for the food wrap paper, and "Plyolene" for the bags are the two St. Regis trade names for the products. Extensive tests were carried out by the paper company and the two chemical organizations on such products as ammonium nitrate stored in multiwall bags, and calcium chloride, among others. An interesting property of polyethylene coating is that it is gas permeable. Non-conductivity, flexibility, are others. Moisture-vapor retention interests the food people, as do properties of chemical inertness and serviceability in temperatures ranging from minus 90 to 230 degrees Fahrenheit. Cost of polyethylene ranges around 44 cents a pound for the molding powder and in the neighborhood of 75 cents in film.

Frozen foods, citrus packs, master containers for unitized packaging, and meat wrap offer prime markets. Considerable polyethylene coated paper is sent to jobbers for sale on the open market. Although found through polaremetization of ethylene at high temperatures and pressures in 1936 in England, it was not made commercially in the U. S. until 1943. Ethylene is formed from cracked petroleum hydrocarbons or natural gas. From the paper industry viewpoint one of the interesting possibilities may be that the coating can carry color materials so that

coating and color may be applied at one time.

Polyethylene coated kraft is finding ever wider uses in industry and agriculture, and acceptance from housewives at retail establishments. According to St. Regis research and development staffers, the horizon is wide.



GUS OSTENSON (above) has been appointed General Chairman of First National Convention of American Pulp & Paper Mills Supts. Association ever to be held in West—set for Multnomah Hotel, Portland, Ore., June 24-29, 1951. He is Mgr. of Paper Mfg., Crown Zellerbach mill, Camas, Wash. Woods and mill visits are planned. A. C. McCORMY, Pulp Supt., St. Regis, Tacoma, is Program Chairman. Other Committeemen selected: FRED ARMBRISTER, BURKE MORDEN, A. G. (GOB) DES MARAIS, WALT SALMONSON, JOHN FULTON, MERRILL NORWOOD, ROBT. PETRIE, H. M. TRUE.

### Brown to Rebuild Machine; Refining Modernization

Proudest machine at the Cascades mill of Brown Co., Berlin, N. H., is "Mister Nibroc," the 196-inch, 1250-feet-per-minute paper machine installed a few years ago as a central part of extensive modernization at Brown. Beside it, still going strong and with many another like it in the Northeast, was a machine installed in 1904, and probably "rebuilt" almost in entirety in those 46 years. Now, however, it is to be rebuilt to current standards, will soon be running 164-inch paper at 1200 feet a minute, featuring auxiliaries as modern as its big brother. In charge of rebuilding will be P. Lepage, of Brown's engineering department, and H. Stafford, power engineer, with an able assist from the Pusey & Jones organization which built "Mr. Nibroc."

The stock preparation system at Cascades will undergo further modernization to take care of the improved papermaking facilities. Another major step in a long Brown program, completion is set for Spring of 1951. Still another sign that Brown's new president, ex-railroad head Lawrence Whittemore, is serious about the paper towel business (to mention only one of Brown's several lines) is the fact that an advertising agency has been appointed larger than its previous representative in that field.



This  
**CURLATOR**  
INSTALLATION  
**PAID FOR ITSELF**  
in 6 MONTHS OPERATION  
IN WOOD SAVINGS ALONE  
IN A NEWSPRINT MILL<sup>†</sup>

This is not a Paul Bunyan story. It has been accomplished and is being done today in actual mill operation. For example last year, by curlating pulp, one newsprint mill saved over 6,500 cords of pulpwood—more than enough to pay for several Curlators. In addition to this outstanding record more than enough sulphur, coal and limestone was saved to pay all this Curlator's operating and maintenance costs.

And while curlation was making possible this saving in pulpwood and increasing the yield, quality standards were absolutely maintained. It will pay any paper manufacturer to look into curlation and its possibilities. The many thousands of dollars that curlation saved in one mill can also be saved in many other newsprint mills.

<sup>†</sup>Name of mill furnished on request.

**Why not find out what a  
Curlator can do for you?**

MAIL THIS  
COUPON  
TODAY FOR  
DETAILS OF  
CURLATOR  
Savings

**CURLATOR\***  
Corporation  
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\*T.M. Reg.—  
Curlator Corporation, Rochester, N.Y.

CURLATOR CORPORATION  
Rochester 10, N.Y.

I would like to be shown what Curlator can do for me.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_



**CHARLES E. ROGERS**, Development Engineer, Research & Dev't. Dept., Babcock & Wilcox Co., New York, is working on a number of power and recovery projects of significance to this industry. Now at the company's research plant at Alliance, Ohio, he was co-author of the most recent report on MgO Sulfite Recovery at Weyerhaeuser's Longview, Wash., mill, revealing "economically attainable balance"—published in June 1950 PULP & PAPER. **PELL W. FOSTER**, appointed Vice President in charge of newly created Equipment Division of Foster Wheeler Corp., New York. New division will comprise Steam, Industrial, Marine and Condenser Departments. Mr. Foster continues as head of Production and Procurement Departments, for which he has been V. P. **ALBERT W. STOMPE**, who (we announced last month) is now V. P. in charge of Sales for The Diamond Match Co., after resigning as General Sales Mgr. of Marathon. He left Neenah, Wis., Aug. 28, driving through Canada with his family to New York where he has purchased a new home at Scarsdale, N. Y. Offices are in N. Y. City. **EDWIN W. KALER**, formerly Gen. Sales Mgr., who has been appointed Vice President of United Board & Carton Corp., Syracuse, N. Y., in promotion to strengthen sales activities.

## NEW CALIFORNIA DIVISION OF SUTHERLAND PAPER CO.

Gordon Hornibrook (left), manager of the new California Division of Sutherland Paper Co., Kalamazoo, Mich., which is being built at Santa Clara, Calif., is shown in this picture studying blueprints of the new specialty item converting division with Al L. Sherwood (right), vice president in charge of engineering for Sutherland.

Plans for the new \$1,000,000 plant were announced by William Race, president, in our August issue. It will make Sutherland's "Serviset" line of paper plates, cups, forks, etc., for West Coast customers. "Handi-Handle" cups, round and square plates, both plain and decorated and wrapped finished products, will be made. Paperboard will be supplied by a Pacific Coast firm, but printing, die-cutting, gluing and other finishing will be done at the Sutherland plant. Tait Co., San Francisco, is building the 96,000 sq. ft. plant. Location of Santa Clara is shown in the map below:



### Hudson Mill Safety

The Hudson River Mill of the International Paper Co. is going out for the reporting of all injuries in its plant. The mill had made use of the local newspaper to publicize its campaign.

**FIBEROBOARD PRODUCTS INC., PROMOTIONS:**  
E. E. "GENE" OLFSON (left), from Office Mgr. at Stockton, California Division, to Assistant Resident Mgr. of Antioch, California Division (not to be confused with new San Joaquin Div. at East Antioch); and PHIL C. NASH (right), from Head Ofice Accounting Dept., San Francisco, to Office Mgr. at Stockton. Mr. Olsson started as bull

gang laborer in Portland, Ore., plant in 1931; became Office Mgr. there in 1942; moved to Stockton in 1948. Mr. Nash started in 1925 at Antioch as warehouse man, moved up to Shipping and Yard Foreman, went to Port Angeles as Office Mgr., then San Francisco.



TWO ASTEN-HILL APPOINTMENTS:

**DARWIN MISCALL** (left), who will represent Asten-Mill Mfg. Co., Philadelphia (dryer felts) in Delaware, Maryland, New Jersey, Ohio, Pennsylvania, Virginia and West Virginia. **KEN HAY** (right), who did cover that territory, moves to Appleton, Wis., to cover Illinois, Indiana, Michigan, Minnesota and Wisconsin for Asten-Hill.

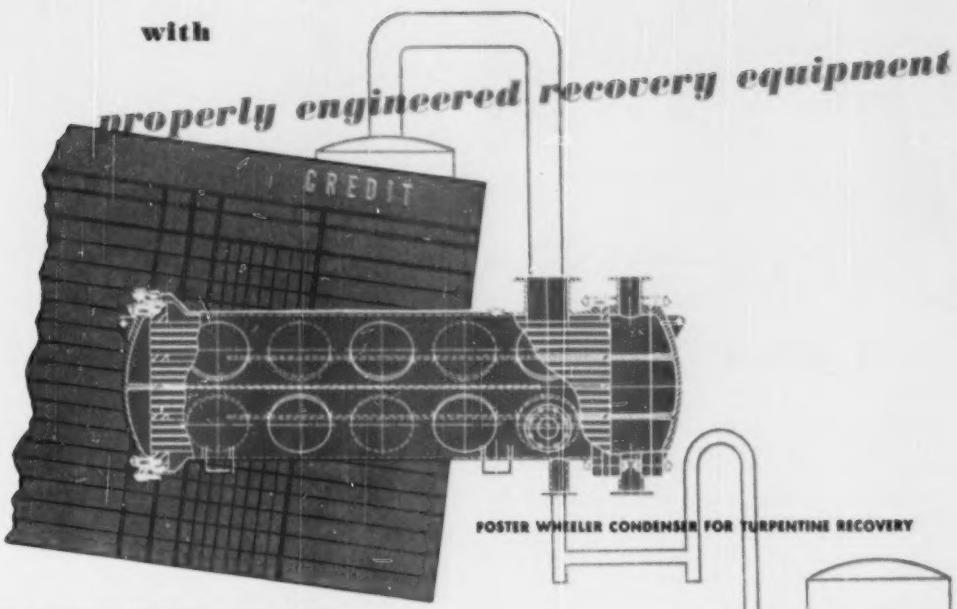
Mr. Miscall, 1931 Cornell grad, was Chief Chemist and Asst. Supt. at APW Products Co., Albany, N. Y., and later was with Orr Felt. Recently ran his own business. Mr. Hay succeeds L. F. Knickerbocker.



**adding a PROFIT**

with

*properly engineered recovery equipment*



### TURPENTINE RECOVERY

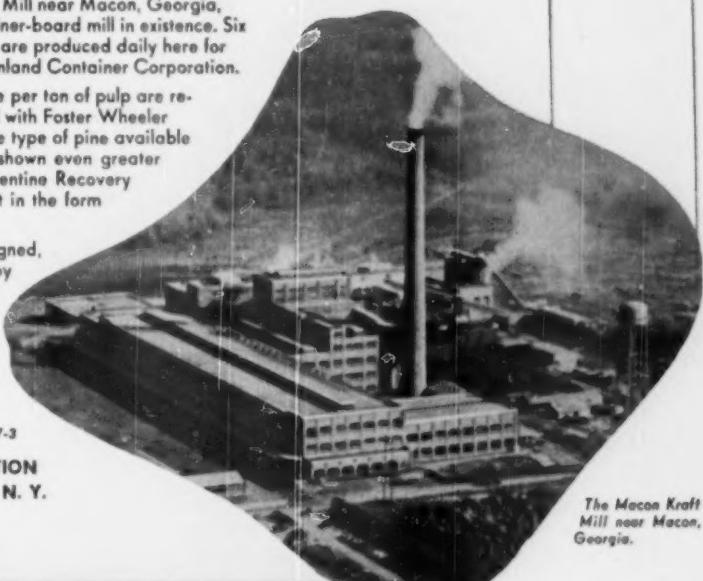
Turpentine Recovery is proving a profitable "side" item at the completely modern Macon Kraft Mill near Macon, Georgia, the largest single-machine container-board mill in existence. Six hundred tons of container board are produced daily here for the Mead Corporation and the Inland Container Corporation.

Two to three gallons of turpentine per ton of pulp are recovered at the Macon Kraft Mill with Foster Wheeler equipment—a fine record for the type of pine available in the area. Other areas have shown even greater yields with Foster Wheeler Turpentine Recovery Systems which also recover heat in the form of hot mill water.

Other pulp mill equipment—designed, engineered, and constructed by Foster Wheeler—include Systems for Digester Blow Heat Recovery, Indirect Digester Heating, and Tall Oil Processing.

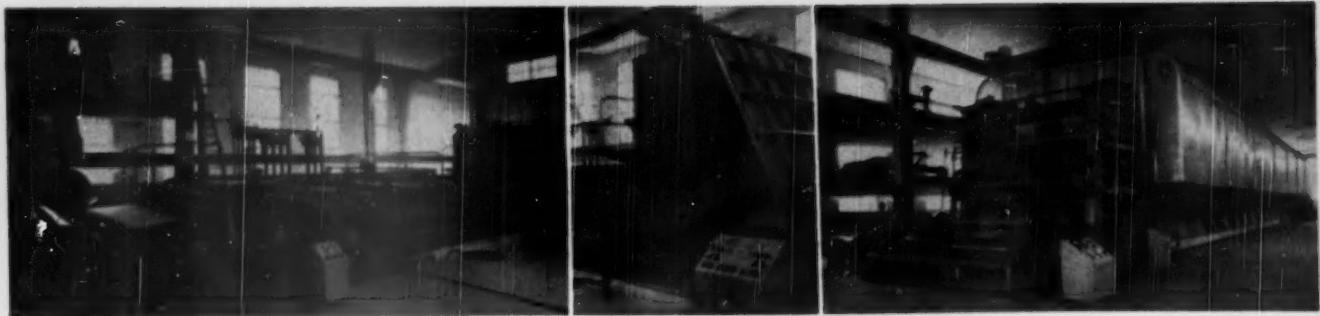
Write for bulletins 1D-47-13 and 1D-47-3

**FOSTER WHEELER CORPORATION**  
165 Broadway, New York 6, N. Y.



The Macon Kraft  
Mill near Macon,  
Georgia.

**FOSTER**  **WHEELER**



VIEWS OF PUSEY & JONES MACHINE at Utzenstorf mill shows modern, efficient, clean-cut construction and layout. Wet end at left; closeup of headbox in center and dry end at right.

## Outstanding Swiss Mill IS ONE OF EUROPE'S MOST MODERN

The widely known Swiss mill, Papierfabrik Utzenstorf, located in Utzenstorf, Switzerland, has been the subject of interest to pulp and paper men throughout the world because of its modernization program, which was first contemplated at least four years ago. Under the management of Siegfried Aeschbacher (in picture), Utzenstorf has become a mecca for those in the European industry desirous of seeing the latest and best in modern paper mill equipment.

Wood for this mill is the equivalent of our pine and spruce, which is purchased from independent contractors in Yugoslavia and Austria, and arrives in pulpwood lengths on flat cars at the rail siding seen in the exterior mill photograph. In Switzerland, of course, hand-felling and bucking is the norm, but the Utzenstorf wood yard has a modern Allis-Chalmers hydraulic barker and a recent-design Swiss chipper.

Talk centering around what has come to be known as "the small mill theory" has given added interest to the modernized Swiss mill. Some industry leaders are wondering if the next "postwar" period may bring to certain areas problems of freight and labor that could mean a return to a semblance of the old-fashioned regional markets phase. The rise and growth of New England industry was essentially a regional industry and market growth, from the modern viewpoint. At least one large operator in the South is studying the place of smaller mills in the future; and, of course, such a mill as the Utzenstorf project is of keen interest to New Englanders. There has also been conjecture about small multi-market mills on the West Coast. They would be defined as owned by more than one user of paper—say a group of small newspapers, and perhaps a coast drug concern using light package stock for containers. But the big question mark is postwar cost. Right now 200 tons is the smallest mill economically feasible. After the last war, paper machines rose to almost twice their cost in 1939.

Arnold Barrea, technical manager of Castle and Overton, Inc., Machinery Department, brought with him recently from Europe a description of this plant. **PULP & PAPER** is thus able to bring to its readers



for the first time in this country, pictures and details of the Utzenstorf installation from an ex-mill man.

Not far from Berne, this mill is undoubtedly the most modern of the 17 paper mills in Switzerland, and possibly in the world. During the long period of planning and construction many features of the most up-to-date paper making techniques were imported from the U. S. and other countries and in turn it would appear certain that the composite Utzenstorf development has contributed equally to modern practice here and elsewhere.

The operation consists of a groundwood mill of 60 tons, and sulfite pulps are brought from the company's neighbor at Attisholz in both bleached and unbleached grades. Products of the Utzenstorf mill include newsprint, telephone and railroad directory papers, and other printing grades. At the time the improvements started, Papierfabrik Utzenstorf had two machines, and the new Pusey & Jones unit has replaced one of these (a Banning-Seybold) and turns out 70 tons daily of directory papers on a 138-inch wire. The other machine is retained for use for newsprint.

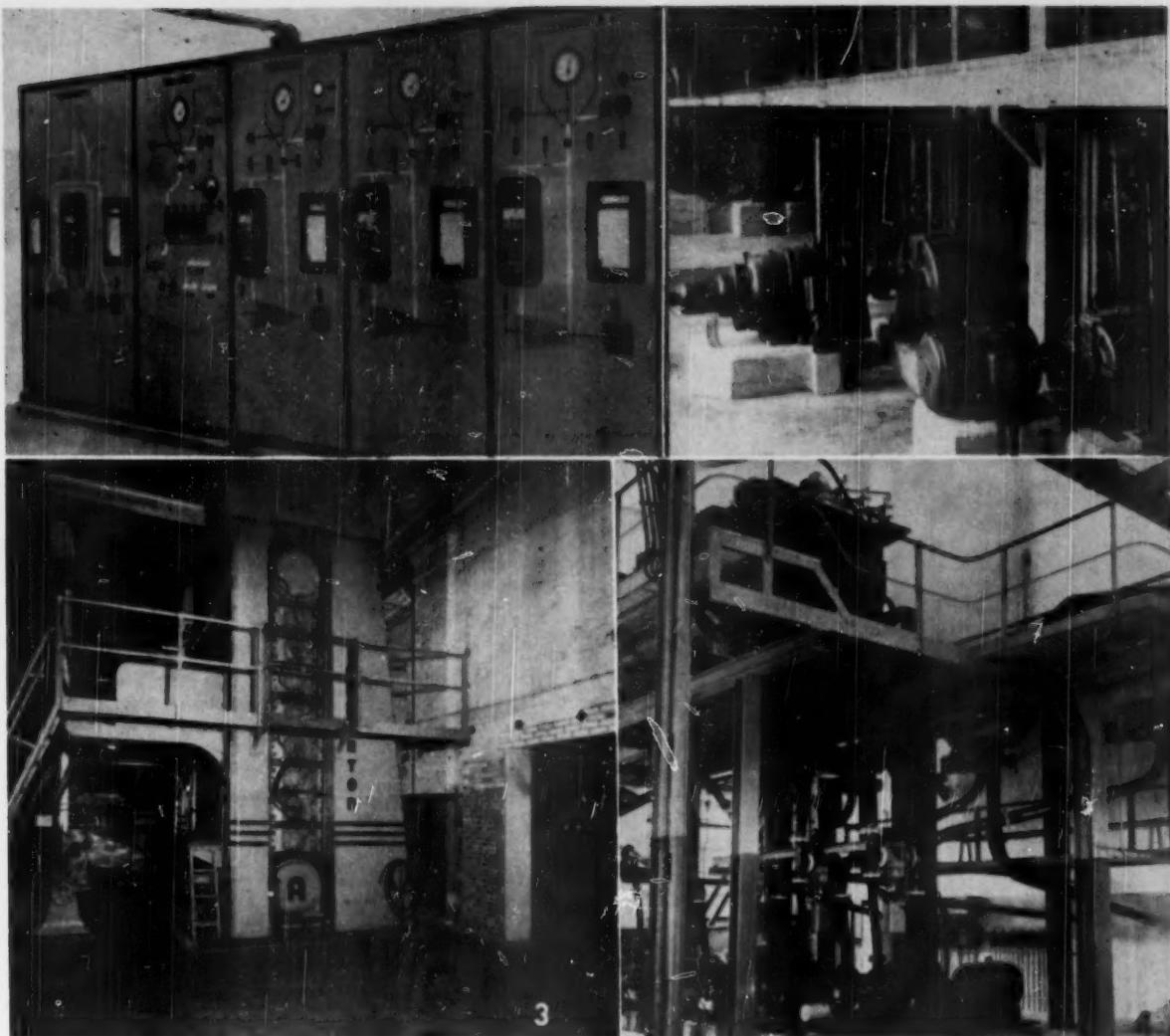
The Pusey & Jones machine is constructed for a maximum operating speed of 1200 feet per minute with all rolls except the bottom calender roll running in anti-friction bearings. Improved type Neoprene lined flow spreader and 6-ft.

high adjustable slice are provided. The Fourdrinier rubber part carries a wire 75 ft. long and 138 in. wide, with 6-in. diameter rubber covered table rolls, forming board, seven Monel oscillating suction boxes, 30-in. suction couch with rubber covered lump breaker roll and air-controlled draw roll; Rapidrape wire changing device is provided together with adjustable wire pitch and duplex shake. Main supporting framework inside the wire is covered with Monel.

A dual press includes two 26-in. diameter Downingtown rubber covered suction rolls and 32-in. Stowe-Woodward Stonite covered center roll; also 18-in. diameter rubber covered top press roll. All nip loading is controlled by air pressure. One set of smoothing rolls is located between the press and dry parts. Dryers are in two main sections, with one upper and one lower felt in each, comprising sixteen 60-in. paper dryers, with four 60-in. felt dryers in the first section and two 60-in. in the second. All dryers are driven through encased gearing lubricated by Bowser circulating system. Improved type steam joints with dual revolving siphons are supplied, and the last overhung dryer is encased with Monel metal and fitted for water circulation when cooling and steam when drying. The 8-roll calender stack with 26-in. diameter bottom chilled iron roll is equipped with Bowser circulating system and air pressure nip loading. A complete set of Vickery doctors is provided, the bottom arranged for motor oscillation.

Pope type uniform speed reel has 36-in. diameter main drum and 8½-in. diameter reel cores. The Pusey & Jones two-drum winder for maximum 124-in. trim has 15-in. diameter winding drums. Top rider roll and individual score cut slitters, motor driven, are all suitable for a maximum 3000 feet per minute speed. Hydraulic operated unloading and dumping table is included.

The sectional electric drive was manu-



#### VIEWS OF UTZENSTORF MILL EQUIPMENT:

- 1—Stock Preparation Panels. Note flow diagram on each panel as integral part of unit.
- 2—Swiss-made Brown-Boveri drives show a shipshape installation.
- 3—Appleton Supocalender equipped with Glens Falls Glossmeter.
- 4—E. D. Jones & Sons Refiners with Trimbay Meters overhead.

factured by Brown Boveri in Switzerland.

#### Stock Preparation

In Mr. Barea's opinion, this is the most up-to-date panel controlled mill in Europe today. Much attention centers naturally on the stock preparation. Of interest (see photograph) is the fact that diagrammed on the instrument panel itself are literally animated flow charts of the stock preparation system. It will be seen that there are four chests for raw fibers, and from these chests the stock goes to a battery of five E. D. Jones High Speed No. 1 Refiners. After the stock and colors are proportioned, it is sent to a small mixing chest and then through two Jones High Speed Refiners for finishing, thence direct to the machine. Power is recorded for each refiner at the master control panel; Hills-McCanna valves are used for recirculation and back pressure. Stock pressure from the refiners is likewise recorded.

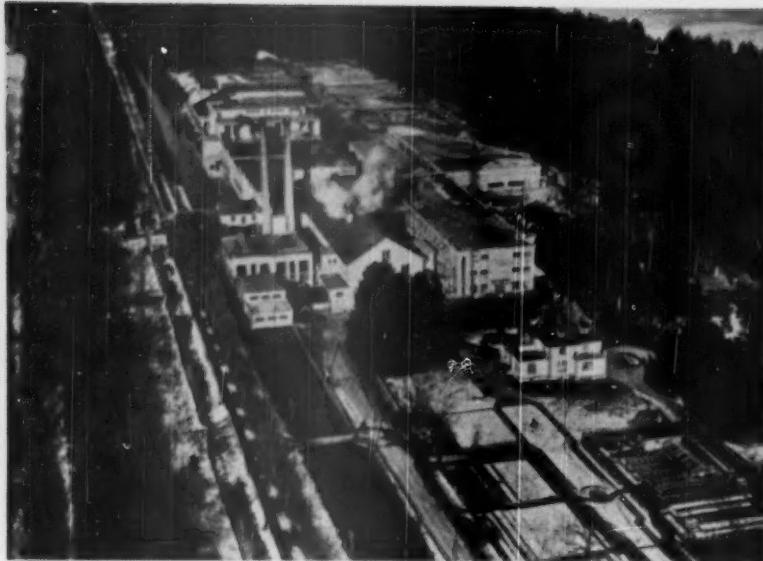
Propeller agitators of the latest type are used in the chests and all starting equipment for agitators, refiners, proportioners, etc., is at the master panel. Visual indicators showing the position of the valves and stocklines are so diagrammed that the operator has constantly before him a

clear picture of the way the system is operating.

With this compact Jones refiner system all controlled from the single master panel, characteristics of stock can be changed quickly so that lost time necessary to the maintenance of specifications in the finished paper can be kept at a minimum.

A Trimbay continuous metering system adds clay, rosin size and three different colors to stock when required. From the proportioner, the stock is piped to the mixing chest on its way to the finishing refiners. Trimbay Consistency Regulators are used throughout. Propeller agitators, refiners, metering equipment, and all valve points are completely controlled from the Swiss-manufactured instrument panel. Only one man per shift is needed

The E. D. Jones stock preparation sys-



**GENERAL VIEW OF THE UTZENSTORF MILL.** Mr. Aeschbacher's home in foreground; greenhouses and garden buildings at right. Next beyond is power and boiler buildings; finishing building; mill building constructed in 1939; maintenance building; groundwood mill behind tall stacks; note near piling of raw wood near siding; canal is for water and power through area. Agricultural fields beyond. Forest section is not raw material; great bulk of timber comes from Austria and Yugoslavia.

to operate the system by means of the lights on the panel and the push-button controls. The pH is controlled by an automatic Leeds and Northrup pH Control.

A notable feature is the all-aluminum machine hood with heat recuperation system by Sulzer. Machine sections, too, are controlled by panelboard, likewise a panel for control of heat recuperation shows position of flaps and temperature of the air at all essential points.

#### **Supercalenders**

In the same machine room the Utzen-

storf mill has installed a 120-inch 10-roll Supercalender by The Appleton Machine Co. This supercalender is a standard type Appleton unit, including all the features usual in a modern Appleton stack. The applied pressure system is of the direct type through oil operated double-action cylinders located directly above each top roll bearing. The cylinders are proportioned to produce a pressure of 2000 pounds per linear inch on the bottom nip. The roll-lifting device is incorporated in this same hydraulic loading system so that the cylinders raise the rolls as desired through quick operating, reversing valves. The

## **ROSS INSTALLS FIRST PULP DRYER**

### **Fletcher and Abrams Tour Mills**

To Sax Fletcher, president of J. O. Ross Engineering Corp., New York, Wisconsin has always been a beautiful state, but when he makes a mill tour within its boundaries and sees a number of Ross installations working perfectly, it becomes more beautiful than ever. That is a natural reaction for a man with the pulp and paper industry so much in mind, and when he says "those mills compare with any I have ever seen" there is the sure ring of sincerity in his voice, and experience, too.

On the Wisconsin journey Mr. Fletcher drove from Wausau with Allen Abrams, vice president of Marathon, to Port Arthur where the two took the train to Ontario to visit Marathon's mill there. After a two-day visit with Bob Steedman and his force, the route went south again toward the Rothschild mill of Marathon and the new Wausau operations. From there Mr. Fletcher visited at Rhinelander

to get his first glimpse of new installations there.

Next on the itinerary was a visit to Wisconsin Rapids and Biron mills of Consolidated Water Power and Paper Co. Later came the Mosinee mill and Nekoosa-Edwards mills, Fort Edwards.

In his Manhattan headquarters, Mr. Fletcher spoke enthusiastically of Ross equipment in other areas. The company has sent its first pulp dryer (drying completely with externally heated air) to Chesapeake Corp., West Point, Va., where it has had four months operation now, turning out 125 tons of air dry pulp every 24 hours when at capacity. A second of these machines goes into St. Marys Kraft in Georgia but is not yet in full production. When it is, 220 tons are possible. Another one is going into the new Riegel Carolina mill at Wilmington, N. C., with a capacity of 220 tons.



**ARNOLD J. BAREA** (left), Castle & Overton Sales Manager, who came back from Europe with information and pictures used in this article, and **GEORGE BRODLEY** (right), Pussey & Jones Erecting Engineer, who put up the Swiss machine after previous assignments installing new high speed machines at St. Regis, Tacoma, Wash., and Union Bag, Savannah, Ga. Each coast of the U. S., then Europe, each jump about a year apart, makes the life of an erecting engineer an interesting one.

gloss is recorded on the main panel.

The Appleton supercalender, equipped with anti-friction bearings throughout, is designed for a maximum speed of 200 feet per minute. The windup apparatus is electrically operated, the unwind air operated. The frames are of the usual massive Appleton welded construction arranged for end removal of rolls for quick roll changes.

Mr. Barea points out that the new machine features the Brown-Boveri electric drive especially for the two suction roll dual press, and as an example of other foreign-made equipment, stresses the unique features of the Sulzer suction pump blower type. This is designed with separate rotors, in one pump, for the suction boxes, suction couch, suction presses, and felt conditioners. Water and air are separated before the pump, and the exhaust at a temperature of 310°F. is piped to the drying section for elimination of steam pockets between dryers. The whole power input is recuperated as heat in the dryer section.

**ROLAND WILBER**, manager of the new pulp and paper division of Potlatch Forests, Inc., being started up about Jan. 1, recently gave his daughter, Barbara, in marriage to a friend she met when in Savannah, where Mr. Wilber was production manager for Southern Paperboard Corp. The young couple returned to Atlanta, where son-in-law Jack is in Georgia Tech.

**FRED MEARS**, assistant sales manager of Great Northern Paper Co., New York, claimed he was getting plenty of recreation this summer in his White Plains garden.

**G. L. M. HELLSTROM**, managing director of Paper Machinery Ltd., Montreal, on behalf of the Swedish Pulp and Paper Association, recently presented a parchment signed by Dr. RAGNAR SODERQUIST, association president, to Dr. G. H. TOMLINSON, Sr., vice president and technical director, Howard Smith Paper Mills, on the latter's 70th birthday.

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# GARDNER HAS FIVE "VEEPS"

## Growth Required Management Group



L. to R.: COLIN GARDNER and WALTER E. SOOEY, named Executive Vice Presidents, and ROBERT B. GARDNER, designated Senior Vice Pres., in new management group for The Gardner Board & Carton Co., created to match growth of this Ohio firm, one of largest board and folding carton manufacturers.

The Gardner Board & Carton Co., formerly Gardner-Richardson, with two mills in Middletown and one in Lockland, O., created in mid-August two new executive vice presidencies, a new senior v. p. and two new young vice presidents in moves which are designed to develop a management group capable of matching the growth of this company—now one of the largest board and folding carton manufacturers of the industry.

This was the reason given by President E. T. Gardner for these, and other promotions, in a press release of Aug. 13. Up to last May, when Robert B. Gardner had been made vice president in charge of board sales, W. E. Sooey, for operations, and Colin Gardner, for sales, were the only vice presidents.

Last month they were promoted to executive vice presidents. Bob Gardner to senior "veep," and two new young "veeps" were created—E. T. (Ted) Gardner, Jr., for finance, and Colin Gardner III, for operations.

John J. Hain, former controller, was promoted to treasurer succeeding Ted Gardner. Floyd Lockard, formerly assistant controller, was appointed controller. Calvin Lloyd, former cost accounting head, was named assistant treasurer and assistant secretary.

Robert O. Brosius, formerly assistant treasurer, had been secretary since May.

Colin Gardner, new executive v. p., has been with the company 41 years and is a son of the founder. He began as a time-keeper in the board mill, following graduation from Yale, and held other plant jobs until 1910 when he entered sales. He served as vice president, sales, since 1917. He will continue to direct and guide sales and will devote much time to the planning and organization of the management group.

Mr. Sooey has been with Gardner since 1931 when he came to Middletown as mill manager. He was elected vice president, operations, in 1941 and has served steadily in that capacity. As executive v. p. he will continue to guide and direct general policies of the operations group as well as assume new responsibilities in management.

The new senior vice president, Bob Gardner, another son of the founder, has



TWO NEWLY CREATED VICE PRESIDENTS in the new management set-up announced by Pres. E. T. Gardner, for the 500-tons-a-day Ohio industry which bears their name, are: E. T. (TED) GARDNER, JR. (left), for Finance (he had been Treasurer since 1946); and COLIN GARDNER III (right), for Operations (Operations Mgr. since 1948; was also former Secretary).

been in the business more than 40 years. For more than 30 he headed board sales department and was elected vice president, board sales, in May, 1950, and will continue direction of that department as well as assist in organizational development and planning.

Ted Gardner joined the company in 1935, following graduation from Sheffield Scientific School at Yale. He worked in the plants and sales before appointment as assistant to the president in 1941. During World War II he served on the War Production Board and as a lieutenant in the Navy. In 1946 he was made treasurer.

Colin Gardner III joined in 1934 (after graduating from Yale and doing p. g. work at the Institute of Paper Chemistry) as a clerk in the board mill at Lockland. He subsequently served as a foreman, assistant to the operations manager and production manager. In 1946 he became secretary and in 1948, operations manager.

Mr. Hain joined Gardner in 1920 as controller. He had been assistant treasurer of the Chemical Paper Manufacturing Co., subsidiary of Crocker-McElwain Co. He was born in Holyoke, Mass.

Mr. Lockard began with the Gardner organization in 1925, and Mr. Lloyd in 1930, both as cost clerks.

Mr. Brosius has been with the company over 30 years and prior to being elected secretary in May, 1950, had been assistant secretary since 1934.

## Personals

L. KEVILLE LARSON, sales manager of the pulp division of Weyerhaeuser Timber Co., New York City, has recovered from an emergency appendectomy performed down Alabama way. Mr. Larson was taken ill in Washington, where he'd been appointed a member of the Advisory Committee for the industry, but made his way further south to pick up his vacationing family. He was advised not to risk waiting a return to New York.

C. P. ROBINSON, manager of sales for Heppenstall knives and Kidder Press slitters and rewinders representative to the pulp and paper industry, was back in his offices at 320 Lexington Ave., New York, this month, completely recovered from a recent illness.

A. R. HERON, vice president in charge of industrial and public relations and A. B. LAYTON, vice president in a general executive capacity, were elected to the board of Crown Zellerbach Corp., San Francisco. Mr. Heron came with the company in 1930. He was California State Director of Finance. Mr. Layton started in 1924, and following war service in the Navy, has been in charge of research and development, advisor to finance, sales and manufacturing committees, and is now also chairman of the company's mobilization planning committee.

GEORGE E. STEVENS has been transferred from the Hudson Falls, N. Y., mill of Union Bag to its Savannah mill as assistant superintendent in paper processing.

J. H. MATHER, general accountant for Union Bag's big Savannah, Ga., plant, died Aug. 1. He was 51 and had been with U. B. since 1942.

### Research Director Dies

DR. J. E. MILLS, chief chemist and research director for 17 years for Sonoco Products Co., Hartsville, S. C., died in a Charlotte, N. C., hospital Aug. 12. Born near Winnsboro, S. C., in 1876, he graduated from Davidson, obtained his Ph.D. at North Carolina U., studied in Berlin, and was professor at South Carolina U., until he joined Sonoco in 1934. He was director of research at Edgewood, Md., arsenal in World War I and later its chemical division chief. He was almost totally unfamiliar with Sonoco operations when he joined it, but soon developed new lacquers and products.

LORRAINE LE MONT, sponsored by Fir-Tex Insulating Board Co., St. Helens, Ore., was elected queen of St. Helens salmon derby. Her father, Frank Le Mont, is bookkeeper at Fir-Tex.



*Photo courtesy of Oxford Paper Co., Rumford, Maine*

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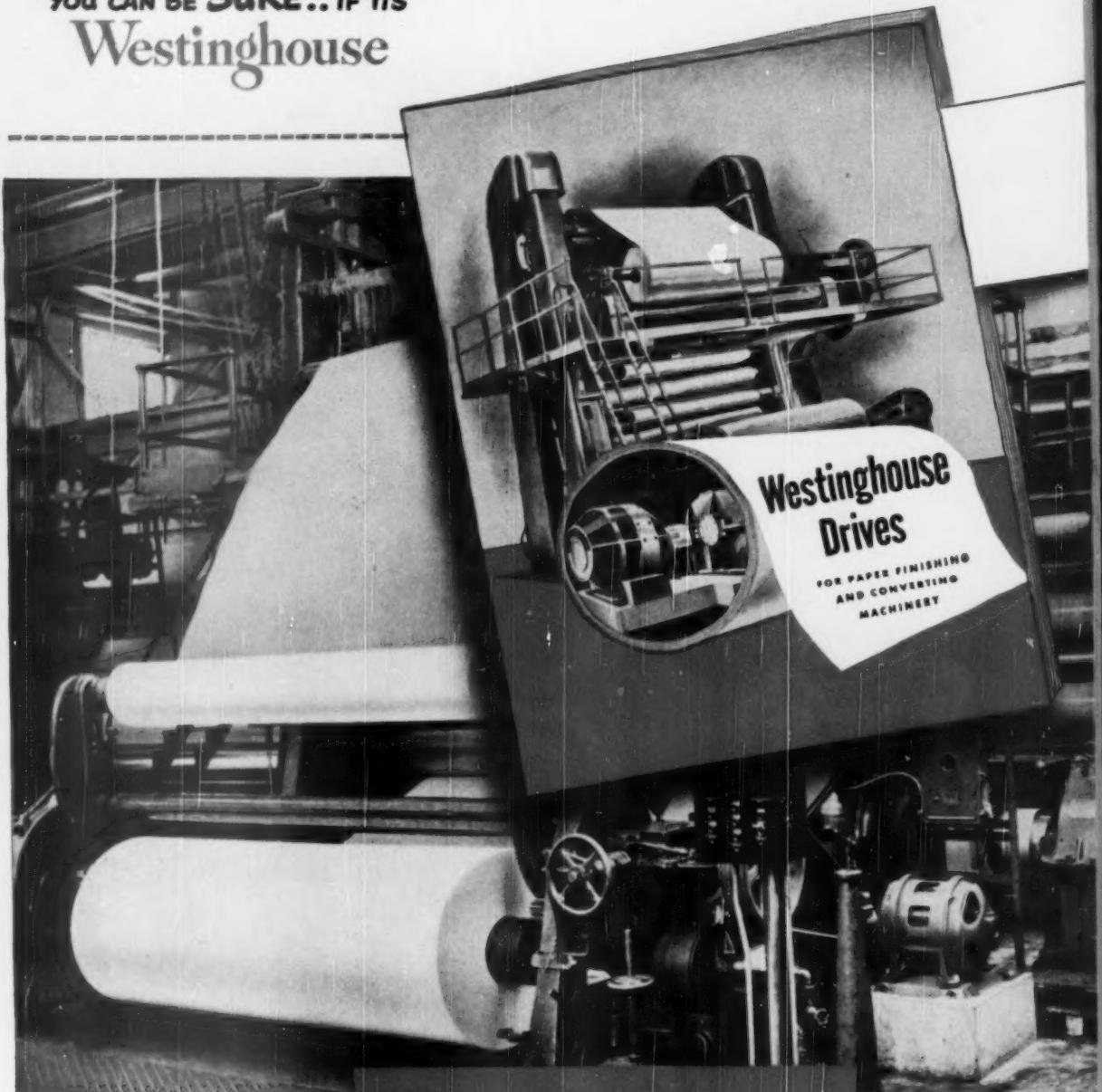
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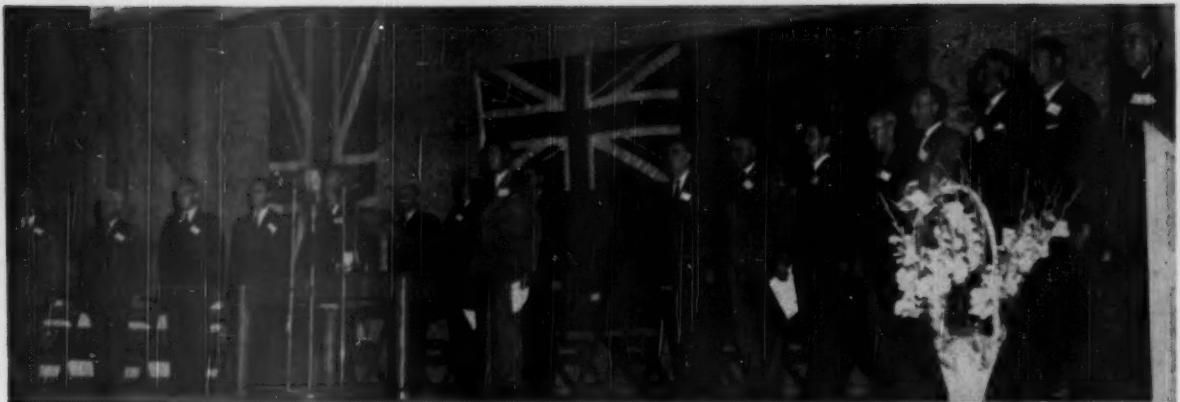
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**BRITISH COLUMBIA GOVERNMENT LEADERS** and Americans, Canadians and Britishers were on platform when unfurling of Union Jack and blast of new mill whistle formally opened the Pulp Div. of H. R. MacMillan Export Co. Above (l. to r.): CLIFFORD CRISPIN, Manager of the Division; W. G. MacKENZIE, Pres. of B. C. Bridge & Dredging Co., mill builders; JAMES STEWART, Gen. Mgr. of Canadian Bank of Commerce; MAYOR WESTWOOD of Nanaimo; MAJ. GEN. G. R. PEARKES, Member of Parliament; E. T. KENNEY, Minister of Lands and Forests of B. C.; PREMIER BYRON I. JOHNSON of B. C.; B. M. HOFFMEISTER (a step forward), Pres. of the MacMillan Co.; CHIEF JUSTICE GORDON SLOAN

of B. C. (behind him); ROBERT W. MAYHEW, Canadian Minister of Fisheries and Pres. of Sidney Roofing & Paper Co.; HERBERT ANSCOMB, Finance Minister of B. C.; ANTHONY BENN, of London, Managing Director of Price & Pierce, which will sell the new Harmac pulp; DR. C. D. ORCHARD, Deputy Minister of Lands and Forests of B. C.; J. P. WEYER-HAEUSER, JR., Pres. Weyerhaeuser Tbr. Co., Tacoma; H. R. MacMILLAN, Chairman of his company; W. J. VAN DUSEN, Vice Chairman, and HOWARD A. SIMONS, Consulting Engineer, who was lauded as "man of the hour" for design of the new mill.



### MANY INDUSTRY LEADERS ON NANAIMO BOAT TRIP

A goodly portion of the cream of Canadian industry, finance, transport and government leadership, and American, British and New Zealander guests, cruised from Vancouver, B. C., on the S.S. *Princess Joan* to Nanaimo on Vancouver Island for a formal festive opening of the new 250-ton kraft pulp mill of H. R. MacMillan Export Co.

Premier Byron Johnson of B. C. (left, in the small picture) shook hands with

Mr. MacMillan (right) in the gesture that formally opened the mill, Aug. 14. (For an exclusive complete description see *PULP & PAPER*, Sept. 1950 issue.) Over 400 were guests for cocktails and fish luncheon in the new mill warehouse and for dinner aboard on return trip of the boat.

Despite a downpour—only rain for weeks before and after the fateful day—guests toured the new mill in groups with guides.

Object of probably the most laudatory praise and ovation ever given an engineer was Howard Simons.

GUESTS ON CRUISE to Nanaimo, B. C., to witness mill opening (left to right): M. J. FOLEY, Exec. V. P. of Powell River; RAY BRUGEON, Traffic Manager for St. Regis West Coast Operations, headquarters, Tacoma; COL. AL HOOKER, Sales Manager, Hooker Electrochemical, Tacoma, which supplies new mill; G. WILLING PEPPER, Vice Pres. in Charge of Procurement, Scott Paper Co., Chester, Pa.; E. M. HERB, Pres., Westminster Paper Co.; PREMIER BYRON (Boss) JOHNSON and FINANCE MINISTER HERBERT ANSCOMB of B. C.



MORE GUESTS ON NANAIMO CRUISE (left to right): BRUCE M. FARRIS, Vice Pres., Bloodel, Stewart & Welch Co., recent builders of another new B. C. mill; PAUL E. COOPER, Pres., Pacific Mills, Crown Z subsidiary; REED HUNT, Asst. Manager of Manuf., Crown Zellerbach, San Francisco (who got together on expediting construction of a new mill to be built at Duncan Bay, B. C., for newsprint); LEO S. BURDON, Vice Pres., Soundview Pulp Co.; JIM SHEASGREEN, Logging Sup't., Comox Logging Co., which will supply new Duncan Bay mill; BERRIDGE SPENCER, Caxton Printing Works, Auckland, New Zealand; W. J. VAN DUSEN, Vice Chairman of MacMillan Export Co., and C. D. ORCHARD, B. C. Deputy Minister of Lands and Forests.

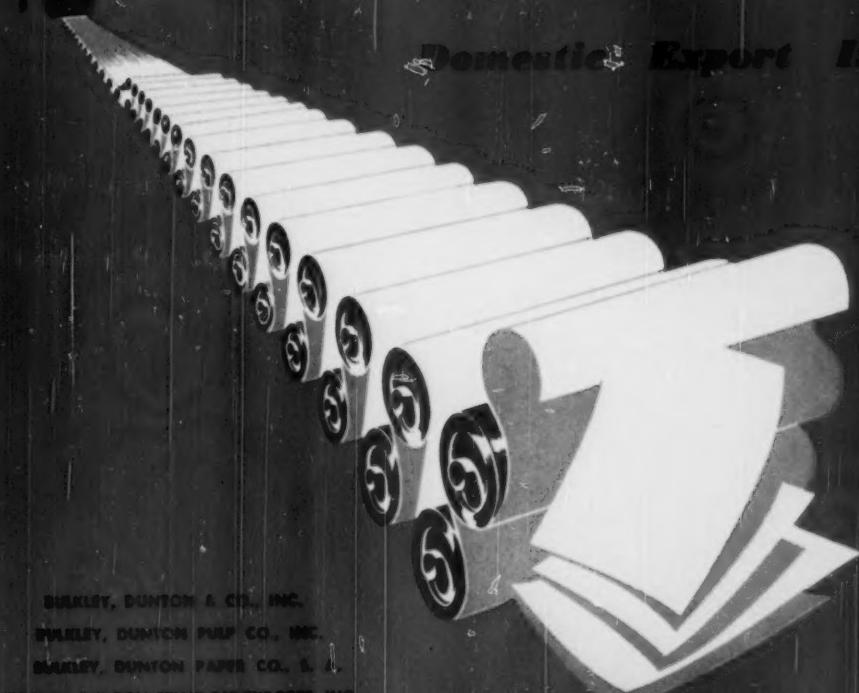


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# NEW MILLS FOR B. C.

## Simons to Engineer Elk Falls Plants Celanese Power Starts Up in November

The fast-growing pulp and paper industry of British Columbia was seemingly racing headlong to completion and construction of new mills this past month.

Hardly was ink dry on published announcements of the projected new Elk Falls Co. mill at Duncan Bay, than Howard A. Simons was appointed its consulting engineer and designer, and the newsprint machine was awarded to Dominion Engineering, and flowbox and inlet to Beloit Iron Works.

Up at Watson Island, near Prince Rupert, the new Celanese Corp., subsidiary 200-ton sulfite cellulose mill, was all under cover, with boilers to start up in November and pulp production around Jan. 1.

Over at Harmac, near Nanaimo, the Simons-engineered kraft pulp mill was officially opened with formal ceremony in mid-August, but already was making close to 250 tons a day and pushing toward completion of its bleach plant by late fall. (Complete description in our Sept. issue.)

And at least two other major timber holders and operators of the province were eyeing these developments with more than casual interest—some day their vast wood resources could be better utilized with pulp or papermaking additions.

### CELANESE MILL STARTUP PLANNED AROUND JAN. 1, 1951

All mill buildings for Columbia Cellulose Co., at Watson Island, B. C., site of Celanese Corp.'s \$27,000,000 high alpha sulfite cellulose plant, are now under roof and closed in, except where necessary to leave walls open for construction purposes.

Equipment is being rapidly installed and President Harold Blancke, who recently visited the site, announced at New York head office that there is nothing in sight to interfere with plans to complete the job by the end of this year. The huge boiler house is sufficiently advanced to assure operation by November, providing heat and power to commence production.

Construction of the dam for additional water in Prudhomme Lake has been started and about three-quarters of the 48-inch wood pipeline to the mill is in place. This pipeline runs through three mountains and is  $6\frac{1}{2}$  miles from lake to plant. Tunnels had to be driven through solid rock. Another long section is on a trestle over tidal lands. Provision has been made eventually to carry about double the amount of water required for present planned production of 200 tons per day. This is equivalent to about 44% of the 1949 consumption of high alpha pulp by the acetate, cuprammonium and viscose high tensile tire cord industries combined, and is roughly equivalent to consumption of such in the cellulose acetate rayon industry alone.

**NEW \$27,000,000 HIGH ALPHA SULFITE CELLULOSE** plant of Columbia Cellulose Co. now nearing completion at Watson Island, near Prince Rupert, B.C. Buildings are expected to be completed and main equipment installed by end of year. At far left is log haul and wood department. Other units shown include digester building, pulp storage sheds, machine room, recovery building and, at far right, office building.



Henry J. Mackin (left), President of Canadian Western Lumber Co., and Paul E. Cooper (right), President of Pacific Mills Ltd., whose companies have organized Elk Falls Co. to build a \$40,000,000 newsprint mill near Campbell River, east coast of Vancouver Island.

### SIMONS WINS HIS THIRD B.C. POSTWAR ASSIGNMENT

Choice of Howard A. Simons (in picture) as the consulting engineer to design and direct construction of the 250-300-ton Elk Falls Co. newsprint mill marked another signal honor for this eminent engineer who has been responsible for engineering of most of British Columbia's major pulp and paper mill projects during the past few years.

In one-two-three order since the war, he has been assigned to such recent outstanding jobs as the Bloedel, Stewart & Welch unbleached kraft mill, completed just three years ago at Port Alberni; the H. R. MacMillan Export Co. Pulp Division bleached and unbleached kraft mill at Harmac, recently started; and now the Elk Falls Co.'s newsprint mill near Duncan Bay—all on Vancouver Island.

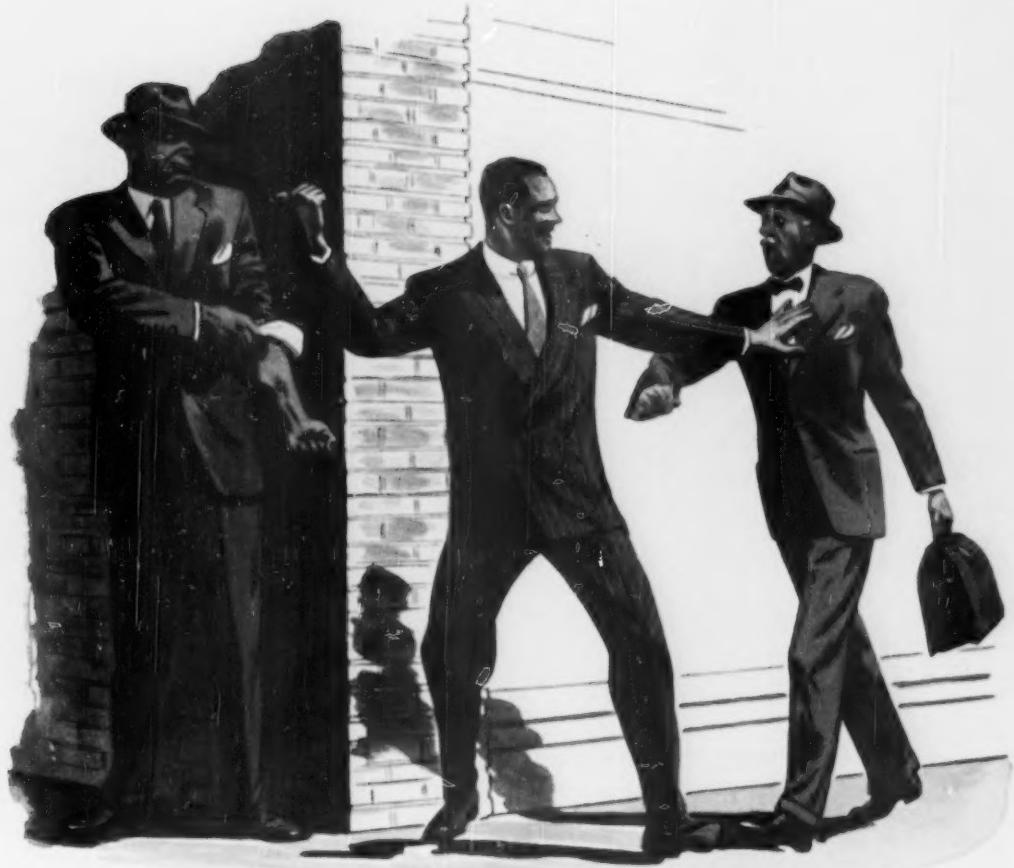
R. R. "Bob" Edwards, assistant manager at Ocean Falls, B. C., has been appointed manager-to-be of the new mill. Tom Hargreaves, ex-assistant manager at Port Angeles, Wash. (C-Z), is to be company representative on the construction project. The paper machine to be supplied by Dominion Engineering, Ltd., Lachine,

Que., for Elk Falls mill will be almost an exact duplicate of the machine built for Bowater's Newfoundland Pulp & Paper Mills by the Dominion company. The trim will be 265 inches and the wire width 284 inches. It will be a four-roll machine and flow box will be supplied by Beloit Iron Works of Beloit, Wis., which has built several machines for Crown Zellerbach mills.

J. D. Zellerbach, president of Crown Zellerbach Corp., and Paul E. Cooper, president of Pacific Mills, visited the Ocean Falls mill of the latter organization in August, reviewing the new wood room construction there and discussing plans for Pacific Mills' joint venture with Canadian Western.

Chemical pulp for the groundwood and newsprint mill at Duncan Bay will come from Ocean Falls for at least the first year or more of operation, when it is planned to add a bleached kraft unit at Duncan





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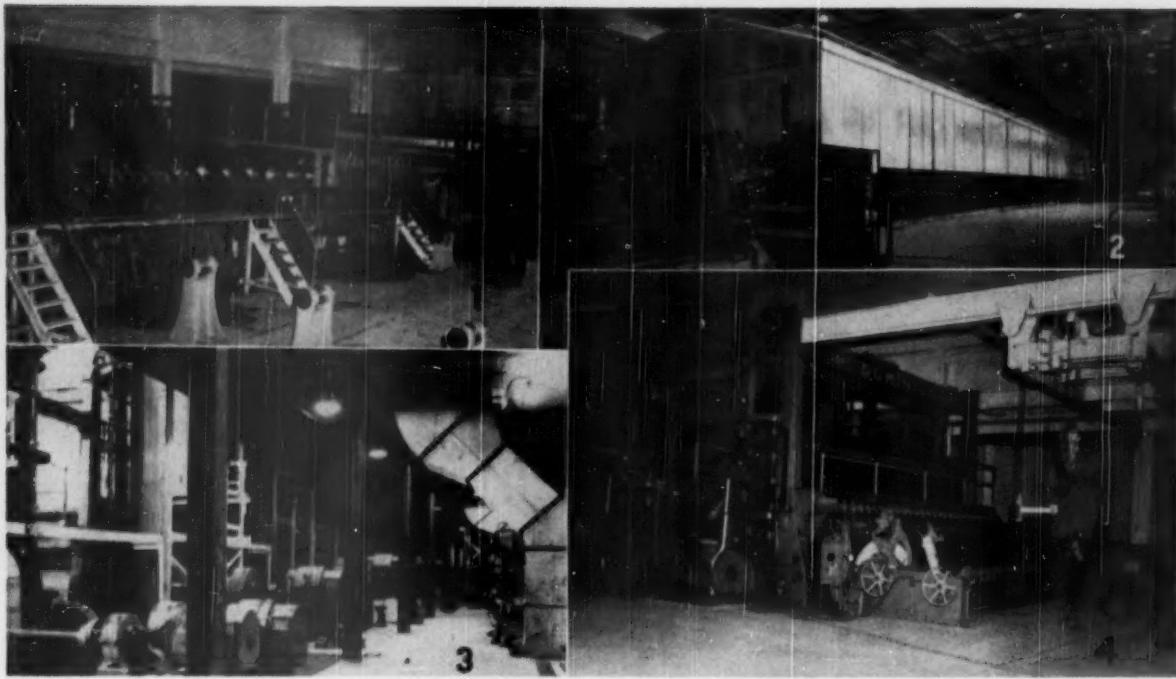
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**THESE ARE FIRST PUBLISHED EXCLUSIVE VIEWS OF THE BOWATER'S 284-INCH NEWSPRINT MACHINE WHICH STARTED UP TWO YEARS AGO**, obtained by **PULP & PAPER** Editor on flying visit to the Corner Brook, Newfoundland, mill. They are of new interest today because of the announcement that the new machine for Elk Falls Co. at Duncan Bay, Vancouver Island, will be almost an exact duplicate of this machine, also to be made by Dominion Engineering, except for flowbox by Beloit.

**PULP & PAPER's pictures show:**

1—The Fourdrinier section, with pedestals in foreground for

Bay. The entire project will eventually cost \$35,000,000 to \$40,000,000.

As announced last month, the Elk Falls mill, about 100 miles northwest of Vancouver, near Campbell River, is to start up in late 1952.

It will be the first new newsprint mill built in North America—outside of two in Texas and Alabama—in 13 long years.

The decision to give the Elk Falls job to Mr. Simons not only recognized his personal success on the Bloedel and MacMillan projects, but took into consideration the fact that he had at his disposal an efficient, fully organized staff ready to go to work now that the MacMillan mill is in full operation, except for bleach plant. It was not overlooked that the Bloedel mill, designed for 165 tons daily, has been producing close to 200 tons daily, and that the MacMillan mill started without a single hitch, and within a few weeks was producing close to its rated capacity of 250 tons.

The son of the distinguished V. D. Simons of Chicago, who played such an important part in the industry for years, Howard Simons was born 52 years ago at

quick wire change, and the couch roll.

2—First and second press section, then the Ross Engineering hood, with sliding panels, housing 50 five-ft. diameter dryers. **PULP & PAPER** witnessed these dryers, without paper on, run at the "never-before-seen" speed of 2,020 f. p. m. But headbox and slice restrict potential speed to 1,750 f. p. m.—which probably would be world record for newsprint at that (1730 f. p. m. at Baie Comeau is still believed the record).

3—Harland sectionalized drive behind calenders and dryers. And Ross air duct.

4—Two calender stacks, reel and hoist.



ROBT. T. EDWARDS,

Asst. Mgr. (l. Ocean Falls, B. C. has been appointed Manager-to-be of the projected new Elk Falls Co. newsprint mill.

Battle Creek, Mich., and studied at the Lewis Institute, Chicago, and the Massachusetts Institute of Technology, where he received his BS degree in 1922.

He entered the pulp and paper mill engineering sphere early in life, being associated with V. D. Simons, Inc. He gained experience at Munising Paper Co., Eagle Paper Co., Hawley Pulp & Paper Co. and other mills. He reported on an Australian paper mill and in 1936-37 was in charge of mill design and installations at the Crown Zellerbach mill at Carthage, N. Y. He pioneered various improvements in the sulfite process.

#### **Newsprint For Small Papers**

In Crown Zellerbach's Aug. 28 report to stockholders it was stated the new Duncan Bay, B. C., mill "will make it possible to supply additional newsprint to (C-Z) customers and provide tonnage for new ventures in the small newspaper field . . ." Incidentally, C-Z announced a new 3-months quarterly record for production of pulp and paper for sale—221,187 tons for May-June-July.

#### **New Record Claimed For Newsprint Mill**

Powell River Co., with its high speed new No. 8 newsprint machine now in production about two years, is continuing to up its records.

In mid-summer, the eight paper machines combined in what is believed to be a new world's mark for a day's production of newsprint by a single plant. The figure was 1039.9 tons. No. 8, running well over 1600 feet a minute, set up a new record for herself of 211.5 tons on that day.

#### **Mead Pulp Sales Move**

The Pulp Division of The Mead Sales Co., Dayton, O., announces transfer of William M. Barrett from the Chicago to the New York office, 230 Park Ave. Mr. Barrett will assist Allan T. Patton in covering the Eastern territory.

**BERNARD GELLERA**, formerly structural designer for Truscon Steel Co., Montreal, has joined Abitibi Power & Paper Co., in Toronto.

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- Great flexibility of control

In a mill making bleached board, Sutherlands replaced jordans and cycling refiners.

RESULTS:

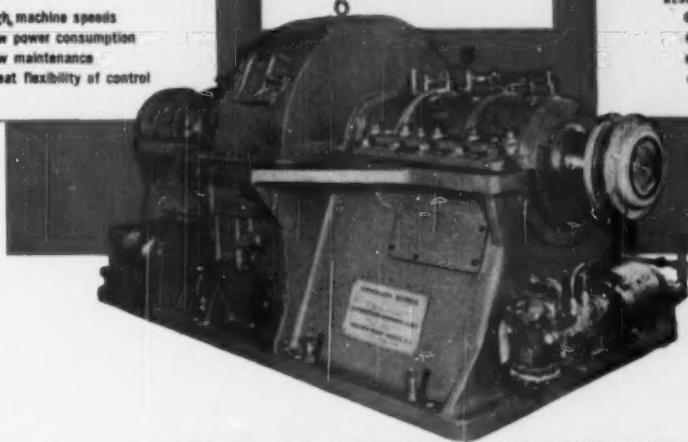
- 33% more production
- 50% less power
- Improved quality
- Lower costs

**SPECIALTIES**

In a mill making bleached and unbleached specialties, Sutherlands replaced several conical machines to provide a well-beaten, but longer-fibred pulp.

RESULTS:

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- Improved formation
- Improved control
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## NEW RIEGEL PULP MILL



JOHN L. RIEGEL (left), President and Treasurer, Riegel Paper Corp., New York, who announced new pulp mill plans, and DR. WARD HARRISON (right), Vice Pres. in charge of Manufacturing, who is expediting equipment construction and overseeing building of new mill. His long experience in production included stopovers at Keuka, Brevard, N. C., and Camas, Wash., mill of Crown Zellerbach.

Equipment orders are being expedited for the new 200-ton a day bleached kraft pulp mill at Acme, N. C., on Cape Fear River, 20 miles from Wilmington, by the Riegel-Carolina Corp., subsidiary of Riegel Paper Corp.

Announced last month in this magazine, the following article brings further comments on the significance of the project by company officers and others interviewed by PULP & PAPER.

It will supply half of the pulp requirements for Riegel's paper mills in New Jersey. Dr. Ward D. Harrison, vice president in charge of manufacturing, has approved most major orders for equipment already.

J. E. Sirrine Co. are consulting engineers and building contractors are C. M. Guest and Sons.

Makers of specific equipment are not yet announced by the company, but reliable sources indicate it will be an extremely modern plant. Exemplifying this report, it is known that Ross Engineering has on its drawing boards a new-type pulp dryer for the mill. This uses externally heated air, will dry 220 tons of pulp every 24 hours when at capacity. Only two others like it are installed, one very recently, the other with just five months' operation, and both in Southeast mills.

The Riegel mill is believed to be the first pulp mill to be built by an eastern non-integrated company since 1940. Returning from abroad, John L. Riegel, the president of the widely known paper company and chairman of a textile manufacturing firm also in the South, announced approval of stockholders.

Viewing the 60,000 ton mill from the pulp supply standpoint, Robert H. Evans, secretary-treasurer, emphasized that after completion of the Acme project, Riegel will still be one of the largest market pulp consumers. "Our needs for wood pulp have been continually expanding," he said.

The Riegel Carolina mill has been a potential since the timber was purchased. Riegel had done a very great deal on paper in the matter of engineering and

equipment, and early this year stepped up details for final decision. Riegel Carolina was placing equipment orders before the outbreak of Korea. And with the events subsequent to Korea came a realization throughout the industry, PULP & PAPER found, that Riegel's move was being received as both important and imperative.

### Paper Mill May Come Later

That Riegel would one day build a paper mill at Acme is a valid conjecture, too, but one on which the company will not comment now. Obviously such a second step is several years away even should future conditions make it advisable.

Asked if lower tariffs on paper, or increased pulp and other costs figured in the decision, Mr. Riegel stated, "It goes

without saying we hope to get back our investment by reduced costs, but in addition we want to put into practice some quality principles research has taught us about our products and we can accomplish this better, we feel, by integrating a part of our operations."

Asked for comment on Riegel's move, Karl Clauson, executive secretary of the Association of Pulp Consumers, stressed the basic resilience of the non-integrated mill. Coupling the probable completion date with world events, he felt, "the mill would be a big step in event of an emergency," and added, "It is evidence of the healthy condition of the non-integrated segment and the continuing postwar growth of market pulp."

Riegel Woodlands Corp. will at the appropriate time be shaping up plans for production of the 100,000 cords of pulpwood per year which Riegel Carolina will require.

## NEW BELOIT FOR THILMANY

The new glassine Fourdrinier paper machine for Thilmany Pulp & Paper Co., Kaukauna, Wis., part of an extensive improvement and expansion program announced in PULP & PAPER last month, will be built by Beloit Iron Works, and will be 137 inches wide, according to Charles R. Seaborne, executive vice president.

It will turn out two-thirds more glassine than two 60-year-old machines which it will replace. The 137 inch wire will be 100 ft. long. The machine will have a 30-in. suction couch, one suction press and two plain presses. There will be 33 dryers of 60-in. diameter in three sections. A size press will be between the second and third section.

General Electric will supply the new 6,000 kw. turbine, required because of increased use of Kaukauna Utility power by other customers. It will be a 600 p.s.i. turbine of 200 lbs. extraction, and 50 lbs. back pressure.

Swenson Evaporator Co. will supply three continuous washing filters of 200 tons per day capacity. Fibre Making Processes will provide the new 12 by 14 ft. barking drum for 8 ft. wood. The 88-inch chipper, multi-disc type, will come from D. J. Murray Mfg. Co., as will the two new horizontal vibrating chip screens.

The new 300 by 50 ft. hot pond just west of the present wood room will be for the purpose of melting frozen bark and dirt off wood in the winter before it goes to barkers.

Kidder Press Co. will furnish a new 54-inch four-color printing press and Modern Engineering and Machine Co. a 60 in. embossing machine among new finishing installations. New piping and pumps, new saveall and refiners had not yet been ordered when we went to press.

Permanent Construction Co., Milwaukee, are general contractors for the expansion which includes a 40 ft. addition to house the new machine and a 146 by 40 ft. brick and steel structure next to Mill 2 boiler house for the turbine, and

complete rebuilding of wood room.

Pfeifer and Shultz, Engineers of Minneapolis, Minnesota, have been retained to design the power plant additions for this expansion program, which includes raising the operating pressure to 600 pounds and installing a 6,000 kw. General Electric turbine generator unit, together with the auxiliary equipment.

### TAPPI and Supts. Meet At Stockbridge, Mass.

"Further Investigation in the Microscopy of Beaten Fibers" and "New Ideas in Fiber Treatment" are subjects to be treated respectively by Dr. F. L. Simons and E. C. Cowles at about the time this issue goes into the mails. The fiber talks will be features of the 1950-51 opener of the New England Section of TAPPI at Red Lion Inn, Stockbridge, Mass., on Sept. 29.

Superintendents are meeting at the same place next day under the banner of the Connecticut Valley group. The Red Lion is the scene of many meetings in that area and future reservations may be obtained by writing Mr. Heaton I. Treadaway, manager of the inn, according to A. G. Dreis, secretary of New England TAPPI.

Dr. Simons is with Crane & Co., Dalton, Mass., which makes currency papers for the U. S. and other governments, as well as a fine specialty line of writing paper; and Mr. Cowles is head of Cowles Chemical Co.

### Good Chemical Supply Predicted by Dow Chief

The chemical industry should be better able to serve new military demands that may arise than at any time during World War II, says Leland I. Doan, president of the Dow Chemical Co. He said Dow has grown 3½ times in plant size since Pearl Harbor.

# Bingham

PRECISION BUILT FIELD PROVEN PUMPS

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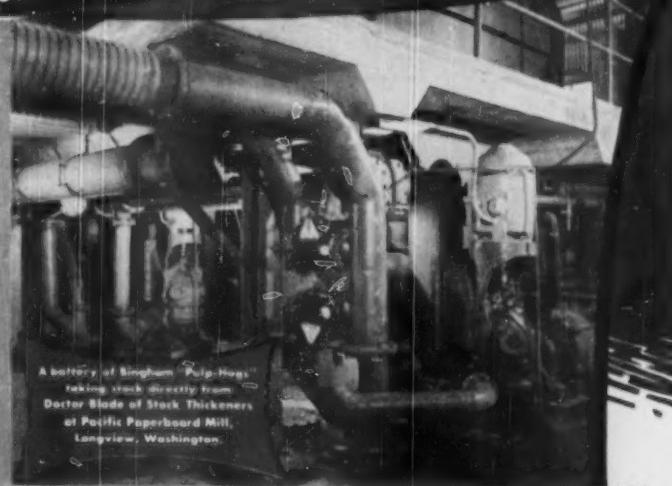
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# KIMBERLY-CLARK CELEBRATIONS

## Service and Safety

Celebrations have been the order of the day recently in Kimberly-Clark mills, as evidenced by the series of pictures on this page. Most of the events were for safety records set up by various divisions of the company.

In one case, as shown in the top picture, it was a small informal observance for Lyall Stilp, purchasing agent for the company, in his Neenah, Wis., headquarters on the occasion of his 35th anniversary with K-C. The anniversary cake and the flowers, presents from his purchasing department staff, may be seen in the picture of Mr. Stilp receiving congratulations from two other old-timers.

Kimberly-Clark mills and plants often have been among leaders in the National Safety Council annual contests, in which a considerable number of the paper industry establishments in some areas of the country are entered. For instance, for the past year the Atlas mill, under Manager Cliff Williams, was one of the dozen plants tied for first place in Class C of the paper and board remanufacturing division of the pulp and paper section.

The company's research and development laboratories in Neenah also won a first place in Class B of the first division of the chemical section.

In primary pulp and paper operations, the Lakeview paper mill in Neenah was a second place winner in Class A, while the Kimberly, Wis., Memphis, Tenn., and Niagara Falls, N. Y., K-C mills won certificates of achievement. Lakeview, under Mill Manager F. H. Werling, completed 3,097,713 man-hours in 1949 with only four lost time accidents, a frequency record of 1.29.

W. R. Kellett, general superintendent of all K-C mills (in two pictures) pointed out the high accident rate off-duty and said safety training can help curb this.

A new 1950 safety steering committee for the two Neenah creped wadding paper mills—the Badger-Globe and the Lakeview plants—headed by Robert Evensen, Lakeview materials dept., with Kenneth Masterson, B-G finishing dept., as vice chairman, is directing this year's campaign.

### Meeting at Kimberly

Last month there were reports of another excellent safety record being compiled at the company's sulfite pulp mill at Kimberly, Wis., where the pulp department had run up 1,387 no-lost-time accident days. W. H. Swanson, of Neenah, director of all pulp manufacturing of the company, and Horace H. De Bois, staff superintendent of the sulfite department, from the central offices in Neenah, both went to Kimberly for a celebration at the Combined Locks pavilion.

J. T. Doerfler, mill manager; A. C. McIntyre, pulp mill superintendent; Al Briggs, of personnel, were other speakers. Guests included J. A. Kapp, formerly of the pulp department, now in research at the Niagara mill; who received a traveling bag gift from employees. Phil McCarthy, now at the Coosa Pines, Ala., mill, was also a guest.

### Kimberly Sunday Work

In order to meet high demand for paper, the Kimberly, Wis., mill of Kimberly-Clark Corp., has arranged to operate about half of the Sundays for the rest of the year by management-union agreement. The arrangement began Aug. 20 but is subject to revision.



LYALL STILP (above-center), Purchasing Agent for all K-C Mills, congratulated on 35 years with K-C by MARVIN E. GARFIELD (left), Senior Invoice Clerk, with 33 years, and FRANK RADDU (right), Follow-up Clerk, with 34.



W. R. (Bill) KELLETT, Gen. Supt. of all K-C mills, admires Safety awards. At Atlas Mill (top, l. to r.): Jerry Zapp, Wallpaper Works Union President; Mr. Kellett; Cliff Williams, Mill Mgr.; Frank Austin, Safety Chairman. At Lakeview mill (below, l. to r.): Mike Dunford, Safety Chairman; Art Hombelte, Safety Director; Mr. Kellett.



## at FIBREBOARD PRODUCTS

another notable  
installation of  
modern



Left—Black-Clawson machine and right  
—Pusey & Jones machine at Fibreboard Products—both equipped with ROSS Hoods and ROSS-GREWIN Systems.  
Photo Courtesy Fibreboard Products, Inc.

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# War Hits SWL Plans

## New Burning Trials at Niagara, Wis. Many B & W Burning Tests at Interlake Mill

Government and military demands for essential production in the pulp and paper industry, as well as in other industries, will inevitably push aside, for the period of the war crisis, most of the developing projects for abatement of stream pollution.

This seems to be an accepted fact in government as well as industry circles.

As we went to press, the Washington State Pollution Commission withdrew orders requiring Soundview and Weyerhaeuser to build sulfite disposal plants by September, 1951, at Everett—instead, they are permitted to build a temporary 3,200-ft. pipeline to dump liquor 2,400 ft. beyond low water, to a depth of 330 ft., in Everett harbor. Materials are ordered. The line will have 500 outlets, 2 ft. apart. Crown Zellerbach at Camas, Wash., already had permission for temporary piping of waste liquor to deep water in the Columbia.

Relaxation of orders in other states seemed likely.

Now, it appears very certain that any diversion of foundries or machine shops to the construction of any new major disposal equipment would be frowned upon by the government and military as unnecessary. However, they would look upon equipment or materials for production in quite a different light. Already voluntary allocations—although not publicized—are in effect. Whether allocations or priorities, as in World War II, continue as voluntary or compulsory, the wishes of the military and the government for war needs will have the green light over all other projects.

### Wisconsin Pollution Orders

A recent report showed that so far in 1950, the Wisconsin State Committee on Water Pollution, acting under stronger 1949 laws and with larger appropriations, has issued 38 orders to municipalities or towns and industries of various kinds to abate pollution of streams. In its 25 years' existence, the committee's previous record was 39 such orders in all of 1949. As previously reported here, four sulfite mills were ordered to submit plans for disposal plants to the committee by Dec. 31 and to complete the plants a year later—Dec. 31, 1951. Other types of pulp and paper mills received somewhat less drastic orders.

This launched a costly program for waste treatment among the mills. Thilmany Pulp & Paper Co., at Kaukauna, for example, announced a \$350,000 program to comply with state orders, including addition of savealls, etc. Costs for sulfite mills would naturally be much

higher, and as a result the Kimberly mill of Kimberly-Clark curtailed production to reduce pollution 40% to meet the state demands instead, and another, Consolidated at Appleton, had announced it was considering complete closure, although it employed Babcock & Wilcox to conduct exhaustive studies on burning liquor concentrated in a Conkey (Rosenblad) evaporator.

The Madison, Wis., municipality is contesting the constitutionality of the Wisconsin laws.

### Problems Different in Europe



Wis., recently that many reports of efficient methods for disposal of sulfite liquors in Europe are exaggerated or untrue.

The existence of fewer and smaller mills and the faster flow of water at Europe's mill sites in comparison to this continent make the problem quite different, he said. Many European mills are located right on the coast line where fast mountain rivers wash the liquors directly into the sea, said Mr. Collins.

In comparison, slower moving rivers in America often have many more pulp and paper mills and other industries and cities on their banks, all contributing to the pollution load.

A 150-ton mill in Europe is considered a good-sized mill over there, said Mr. Collins, and there are not many up to 200 or 300 tons as compared with some 1,000 to 1,500 ton mills in Southern United States. "We didn't get all the answers we expected to find," he added.

### Hoberg Men See Ammonia Cook

Two other Wisconsin men, Martin J. Auchter, vice president in charge of manufacturing, and Clyde R. Faulkender, technical director, both of Hoberg Paper Mills, returned from a Pacific Coast trip to see the Crown Z-Soundview mills joint experiment in sulfite ammonia base cooking, with evaporation and burning now being developed, at the Crown Lebanon, Ore., mill.

Mr. Auchter said the pulp was very satisfactory, but many problems were to be worked out, including its adaptability

to large modern mills. He and Mr. Faulkender visited eight Pacific Coast mills.

### More Sulfite Burning Trials

New tests of burning concentrated sulfite liquor are being undertaken under the auspices of the Sulfite Pulp Manufacturers' Research League (of Wisconsin and Michigan) at Kimberly-Clark's Niagara, Wis., mill. Results of previous burning trials with a mixture of coal in a Combustion Engineering boiler at the Nekoosa-Edwards Paper Co., are reported in this issue of *PULP & PAPER*.

Waste liquor from K-C's Kimberly, Wis., mill is sent to the League's Rosenblad switch system evaporation pilot plant at Appleton, Wis., for preparation for burning at Niagara. The Appleton evaporator installation by General American Transportation Corp. at Consolidated's Interlake mill, completed its first year of full-scale operation in mid-August. Spent calcium base sulfite liquor from Consolidated's Wisconsin Rapids mill, from Hobberg and Northern in Green Bay, from the League's Lake States Yeast Corp. plant at Rhinelander and from Rhinelander Paper Co., as well as from the Interlake mill itself, has been evaporated in this pilot plant and returned to those mills and plants for various experiments or uses. The concentrate of 50-50 water and solids (it takes five gals. of waste liquor to produce one gal. of concentrate) has been tested for fuel, yeast, road binder, linoleum cement, dispersing agent in concrete mixes, etc.

Stainless steel milk-type trucks haul the liquor or concentrate to and from Appleton in 3,000 to 4,000 gal. batches. A storage building was recently built at the pilot plant with five concrete tanks of 7,000 gals. capacity each.

### Sulfite Liquor for Roads

Kimberly-Clark Corp. has begun what its officials describe as still an experimental project—the use of spent sulfite liquor from its Kimberly, Wis., mill as a roadbinder in Calumet, Outagamie and Winnebago counties. Giant trucks with the words "Roadbinder" and "Kimberly-Clark Corp." in large letters will carry the liquor from Kimberly.

About a half dozen Wisconsin sulfite mills are finding uses for some of their waste liquor for county and city roads and even their own yards and roads. One of the most unusual cases to come to light is that of Rhinelander Paper Co., for one of its "customers" is another sulfite operation, Consolidated Water Power & Paper Co., of Wisconsin Rapids. However, it is used as road binder for Consolidated's forest access roads in forest lands which are closer to Rhinelander, Wis., than the two Consolidated sulfite mills.

# Barrett\*

is headquarters for information on the

## Ammonium Bisulphite Pulping Process

**ARE YOU INTERESTED** in producing bigger yields of better quality pulp at lower cost? It will pay you to get all the facts on the Ammonium Bisulphite Process—the most important new development in acid pulping that has come along in many years.

Barrett began to pioneer the development of the Process 10 years ago. During the last decade, Barrett has done extensive laboratory research... sponsored fellowships in college departments specializing in pulp and paper production... and conducted mill-scale operations.

Today Barrett's accumulated skill and experience is at your service, without charge or obligation. A Barrett technical man will explain to you how you can convert to the Ammonium Bisulphite Process, at remarkably low cost, to obtain these and many other advantages:

**YOU SAVE STEAM.** Cooking time and maximum temperature are reduced, because of superior penetration of chips by ammonia. Maximum temperature has been reduced as much as 30°F.

**MORE PULP FROM YOUR WOOD.** The Ammonium Bisulphite Process produces a higher proportion of acceptable pulp, thus increasing the capacity of your knotter and fine screen equipment. You also increase the capacity of your deckers and washers because of the increased freeness of the pulp.

**BETTER QUALITY PULP.** You get stronger, lower ash, brighter unbleached pulp, more uniform quality gradation, and lower screened speck count. Less bleach chemical is needed to bleach ammonia base pulps.

**YOU SAVE MONEY.** One ton of ammonia replaces three tons of limestone in the pulping process. You save the labor of handling limestone, and eliminate scaling and other undesirable effects of calcium base acid in all sections of your mill.

**STREAM POLLUTION ABATEMENT.** The Ammonium Bisulphite Process lends itself readily to evaporation of waste liquor and combustion and recovery of heat and chemicals, thus overcoming stream pollution.

---

**BARRETT** is headquarters for complete, reliable, first-hand information on the Ammonium Bisulphite Pulping Process. Write, wire or telephone! Your inquiry will receive prompt attention, with no obligation on your part whatever.

\*Reg. U. S. Pat. Off.



**THE BARRETT DIVISION**  
ALLIED CHEMICAL & DYE CORPORATION  
40 RECTOR ST., NEW YORK 6, N. Y.

Barrett Standard Anhydrous Ammonia

# Pulp & Paper

## News About Industry People From Coast to Coast

**LEO E. CROY**, executive vice president, Marathon Corp., Menasha, Wis., took Alfred Stompe's home on Wisconsin Ave., in Neenah, off his hands. Mr. Stompe, as announced elsewhere, left Marathon to be Diamond Match sales executive in New York, and the sale of his home became a Marathon "inside job."

**CHARLES E. WHITTEN** is new president and general manager of Gair Co. of Canada, succeeding **GEORGE W. BROWN**, who died last June. **W. RUSSELL ECCLES** is the treasurer. **HAROLD STEELE** is a new director.

**JOHN McDERMOTT**, paper mill superintendent, St. Regis Paper Co., Tacoma, Wash., took his family to northern New York and their former home in the Black River country for a vacation.

**JOHN SALES**, formerly manager of the Hopewell, Va., division of Continental Can, has been made vice president and manager of Gould Paper Co., Lyons Falls, N. Y., another Continental Can mill. He succeeded R. W. Shaver, who retired.

**JOHN I. PRITCHETT** has been made executive vice president and general manager for Highland Container Co., Jamestown, N. C. Mr. Pritchett joined Highland in 1947, after 12 years in corrugated packaging development work and selling. A native of Virginia, he attended Virginia Military Institute.

**PEGGY MANNING**, widely known as secretary to **DON TENNEY**, resident purchasing agent, Crown Zellerbach Corp., Portland, Ore., was fatally injured in an accident Aug. 20.

**DEAN K. PHILLIPS**, graduate of Yale 1934, has been named public relations director for Gardner Board & Carton Co., Middletown, O.

### Sonoco Mill In South Names Safety Coordinator

Charles Suggs, former secretary to Production Manager J. H. Martin, has been appointed safety coordinator—new job and new title—at the Hartsville, S. C., semi-chemical pulp and tubular specialties paper mill. Besides coordinating all safety work, conducting inspections, etc., he will assist the engineering department in designing safeguards for new machinery and in developing work plans for new installations. Supervisors still retain their authority on safety matters in the Sonoco mill, and are responsible for enforcement of rules.



MEN IN INDUSTRY AFFAIRS (left to right):

These men were put into industry news last month by Aubrey Crabtree, President of Fraser Paper, Ltd., for the mills at Madawaska, Me. Left to right:

**JAMES G. CONLEY**, named General Sales Mgr. from his former post of Sales Mgr., is this year's General Chairman of Sulfit Manufacturers Association, has been with Fraser since 1930. His headquarters, 430 Lexington Ave., New York.

**J. R. CRYAN**, succeeding Mr. Conley as Sales Manager, is a 20-year Fraser man.

**LOGAN W. MILLER** and **CYD F. GILLIS**, are Regional Assistant Sales Managers. Mr. Gillis, with Fraser for two decades, is in charge of Chicago Division, Mr. Miller of Cleveland Division. He re-joined the company after three years in World War II and has 16 years to his credit with Fraser.

**OPENING OF A NEW BRANCH** in Natchez, Miss., has been effected by the Bancroft Paper Co., Inc., Monroe, La. Millard Williams is manager. The same company announces that Bill Clopton, formerly with Dixie Cup in Fort Smith, Ark., has become assistant manager of the Bancroft branch in Shreveport, La. James Corley, formerly with the Monroe office, has been transferred to Baton Rouge, La.

**HARRY WILSON**, senior acid maker at Fibreboard's Port Angeles, Wash., mill has retired at 30 years in pulp mill and acid plant. Fellow workers gave him a set of luggage.

**EDWARD J. SULLIVAN** announces his resignation as eastern sales manager of Gould Paper Co., subsidiary of Continental Can, New York City, effective Oct. 15. Mr. Sullivan was previously with Oxford and Fraser.



IN WESTERN INDUSTRY NEWS:

**DR. MAURICE E. KINSEY** (left), who has been transferred to Sales Dept. of Executive Offices, Rayonier Inc., New York, from the company's Central Chemical Laboratory, Shelton, Wash., where he was active in wood cellulose research. He had been at Shelton since 1931, except for 6-year period at company's Fernandina, Fla., pine sulfite mill, where he was Chief Chemist. Received Chemistry B.S. degree at Oregon State in 1927 and Ph.D. at Wisconsin U. in 1931. Oldest son, Charles, remains at Wash. State College, while Kinseys and two younger children move to Westchester county home near New York.

**JAMES A. WILLIAMS** (right), former vice president of Bonestell and Co., paper jobbers of San Francisco, and with paper companies—Dwight Bros., Moser, Berkshire, Graham and Bonestell—since 1914, has been appointed Sales Mgr. of the Pulp and Paper Div., Potlatch Forests Inc., Lewiston, Idaho, according to William P. Davis, president. Was born in Missouri and attended Northwestern U. New Potlatch kraft mill is over 50% completed and should be in production about Jan. 1.

### Lewthwaite, of Famous Industry Family, Dies

Norman A. Lewthwaite, who was 52, member of a family prominent in pioneering the paper industry in both England and on the Pacific Coast, and longtime pulp mill superintendent and assistant resident manager of the Crown Zellerbach kraft mill at Port Townsend, Wash., died Aug. 9. His wife, Irene, a son and daughter and two grandchildren survive.

Mr. Lewthwaite became critically ill a year ago, and on return to work took over the new office of assistant to the resident manager, devoting his time to special technical problems, with Beverly C. Smith taking over as assistant resident manager.

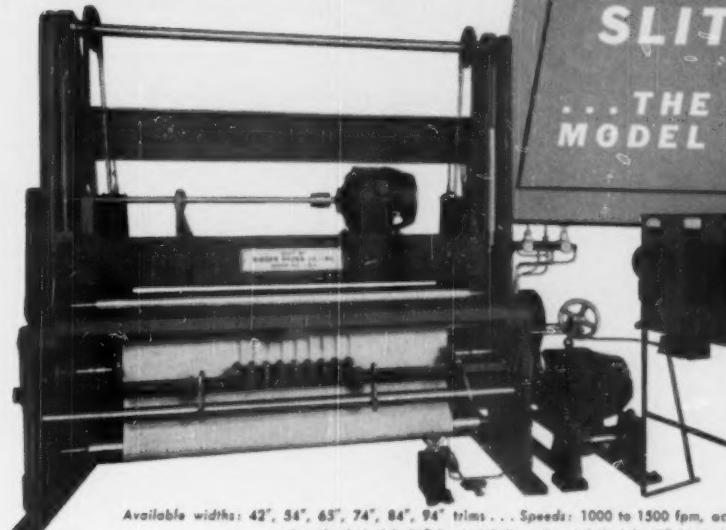
Mr. Lewthwaite started with C-Z at Ocean Falls, B. C. in 1916; went to Port Townsend as pulp superintendent in 1928. During the war he achieved an outstanding record when on "loan" to direct the Crown Z charcoal plant in Seattle supplying chemical warfare materials. After the war, he succeeded Leo Ziel as assistant manager at Port Townsend, when the latter moved up to manager.

Alexander Lewthwaite, ancestor of the Townsend man, started a paper mill on the Isle of Man in 1789. His son, Alexander Jr., worked there from 1809 to 1822 and then spent 78 years in the famous Mount Rule mill of England. Norman Lewthwaite's grandfather, William Lewthwaite, started the first paper mill on the Coast in Marin county, California, in 1856, and ten years later pioneered the industry in Oregon. Norman's father, C. R., was prominent in U. S. and Canadian mills.

**JOHN VICTOR**, assistant paper mill superintendent, St. Regis Paper Co., Tacoma, Wash., gave his daughter, Frances, in marriage Aug. 12 to John Staub III, of White House, N. J., who is vice president of Vulcan Auto Parts Co.

**JULIAN H. MERRILL**, formerly woods manager for Brompton Pulp & Paper Co. at Nipigon, Ont., has accepted a similar post with Anglo-Canadian Pulp & Paper Co. at Quebec City.

# Kidder Announces



A NEW  
GEARLESS  
SLITTER  
. . . THE  
MODEL **G.T.**

Rugged Enough  
To Slit 200 lb.  
Tag Stock...  
Accurate Enough  
To Handle The  
Lightest Tissue

Available widths: 42", 54", 63", 74", 84", 94" trims . . . Speeds: 1000 to 1500 fpm, according to type of work . . .  
Standard Model: 26" Rewind Roll — Special Model: 40" Rewind Roll

### G. T. Features For Easier, Lower-Cost Slitting

**Gears Eliminated**, resulting in greatly reduced upkeep and almost complete silence. V-belts replaceable without dismantling. Rotating members, except mill roll shaft, mounted on sealed anti-friction bearings.

**Motor Drive** sold as package, including M. G. set. Main motor and mill roll brake on right of machine. Kidder engineers will recommend motors of correct capacity.

**Shear-Action Cutting** severs web. Shaft-mounted, two-edged back cutters,  $\frac{3}{8}$ " wide, are driven slightly faster than the web. Ball-bearing front cutters, rotating by pressure against back cutters, are kept sharp by latter's harder metal.

**Slit Webs Are Wound** either on core or on a collapsible shaft, in cradle formed by two drums, under pressure

from a third above. The two drums are driven by main motor; top roll is driven by a rheostat-controlled auxiliary motor.

**Hardness Controlled** by varying pressure and speed of top roll assembly, which is heavy enough to wind the hardest roll. Pneumatic cylinder provides counterbalance ranging from zero to complete lift.

**Web Tension** is provided by water-cooled, rotating-disc brake. Actual tension control is through pneumatic diaphragm exerting smooth, flexible pressure on the two stationary plates.

**Bow Bar** helps smooth out wrinkles and handle baggy stock. Bar, adjustable as to angle, can press on web's center or edges, combining with the mill roll's bias adjustment to keep web straight and taut.

Send for complete information on the quieter, smoother-working, cost-reducing Model G. T. Slitter



- give you
1. Clean, Accurate Cutting
  2. High Speed, Dust-less Operation
  3. Easy Separation of Rolls

## KIDDER PRESS COMPANY, INC.

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Graybar Bldg., New York 17, N. Y.

MACHINERY SERVICE COMPANY

5270 East Washington Blvd., Los Angeles 22, California

# PENN SALT'S 100th YEAR

## From Whitemarsh To Tacoma

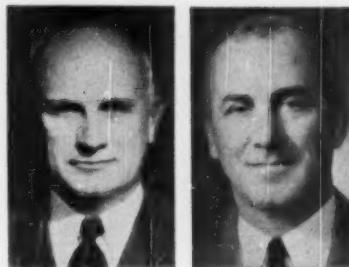
Pennsylvania Salt Mfg. Co.'s 100th anniversary on Sept. 25 was marked by celebrations which began in early August in plants in various parts of the country. From a company which started with a caustic soda plant at Natrona, Pa., 21 miles from Pittsburgh, but was a failure until it began marketing a household lye in 1855, it has grown to a producer of \$38,000,000 annually in a varied line of chemicals.

George B. Beitzel, president; Leonard T. Beale, chairman, long with Gov. James H. Duff, were featured speakers for the Sept. 25, 26 and 27 series of events—two luncheons, dinner and three tours—at the Whitemarsh Research Laboratories near Philadelphia, installed in the old Stokesbury mansion which was purchased in 1944.

The separate company, Pennsalt Mfg. Co. of Washington, founded in 1927 to supply chlorine and caustic soda to the fast-growing Pacific Coast pulp and paper industry, held its celebration in August. An open house, luncheon, and a series of exhibitions, depicting the history, the products and the customers of Pennsalt in a score of industries, with college girls giving a descriptive talk at each exhibit, drew several hundred guests to the main western plant at Tacoma, Wash.

Similar exhibits and open houses at Wyandotte, Mich., also important to pulp and paper as Pennsalt's first chlorine plant (1893) and various other plants were planned.

President Fred C. Shanaman of the Pacific Coast company, which added a new plant at Portland, Ore., since World War II, keynoted the early celebration on the coast when he said Pennsalt's success was due to "loyalty of its employes, trust of its customers, friendship of communi-



GEORGE B. BEITZEL (left), President of Penn Salt Mfg. Co., parent firm of Philadelphia, and FRED C. SHANAMAN (right), President of separate company, Penn Salt Mfg. Co. of Washington, Tacoma, Wash., who were principal speakers and leaders in 100th Anniversary celebration of the company over 3,000 miles apart.

ties in which we live and work, stability of management, and confidence of shareholders."

### Pennsalt Improves Portland

The Pennsylvania Salt Mfg. Co. of Washington is completing a program of improvements to existing facilities at its plant in Portland, Ore., it is announced by Fred C. Shanaman, president of Pennsalt of Washington. Storage and warehouse space has been expanded to take care of herbicides and insecticides and improvements have been made for manufacture of DDT, chlorates, chlorine and caustic soda. Caustic soda evaporation is being enlarged.

### International Harvester

International Harvester announces a new 24-page catalog describing the new International TD-18A crawler tractor. Write to the company, 180 North Michigan Ave., Chicago 1, for a copy of the TD-18A catalog—form number A-154-NN.

### Chemically Barked Trees For N.Y. & Penn. Mills

Sodium arsenite brushed lightly on the sap peeled girdle of the tree does the debarking for considerable of the operations of the Armstrong Forest Co., Johnsonburg, Pa., woodlands operators for New York & Pennsylvania Co., whose Lock Haven, Pa., modernization program was described in detail in the July issue.

Paper for the Post and other Curtis magazines is made from these chemically barked trees, but there are drawbacks for other areas and mills using other species than Armstrong. After proper seasoning, according to species, the branches and tops dry out to shatter as the tree is felled, so few hang up. Standing trees are not damaged. After the bark cracks, dries, and falls off, the wood seasons and is lighter for hauling and handling, Armstrong officials say.

A few dollars will take care of several hundred trees. One cost sheet showed use of a gallon of the chemical (about a dollar's worth) had treated 50 cords, or about 500 trees. In one day a man can girdle and treat 20 cords, sometimes more. Species peeling readily after three months are pines, oaks, aspens. Responding almost as well are basswood, elm and poplar. But it takes a winter's freeze to do cherry, beech, maples, and birch. Theory at Armstrong is that bark is loosening while other jobs are taken care of. But, they admit, what is meat for this operation might be only sodium arsenite, or poison, for the average pulpwood logging show.

FRANCIS E. MURPHY has been appointed production supervisor of the Wyandotte, Mich., works of the Pennsylvania Salt Manufacturing Co., it is announced by William F. Mitchell, vice president in charge of manufacturing. Mr. Murphy joined Pennsalt in 1943 as assistant to the manager of research and development.

## One of the Women Behind Eastwood Wires

### Josephine Van Dyke Tests the "Mettle" of our Wires



Every spool of wire that we draw must pass three physical tests:

1. SIZE—diameters are checked on a special micrometer that makes it possible for us to measure our wires to one ten-thousandth of an inch.

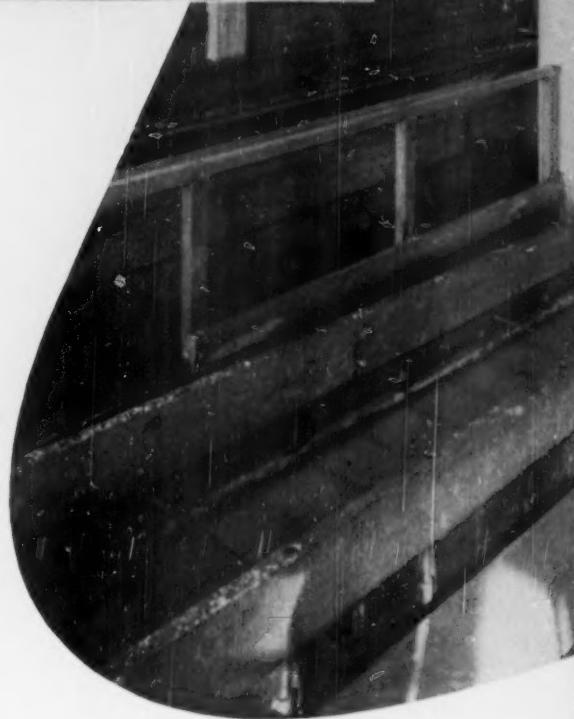
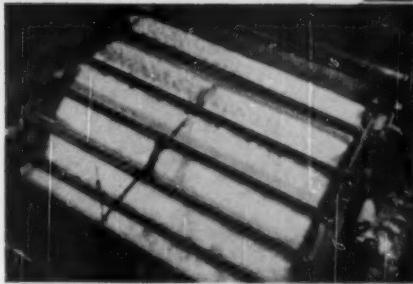
2. TENSILE—the breaking point of each spool of wire drawn is measured under a pulling load to assure uniform

strength of wire.

3. ELONGATION—this test determines whether the correct amount of "stretch" is in the wire—a vital factor in the life of the wire.

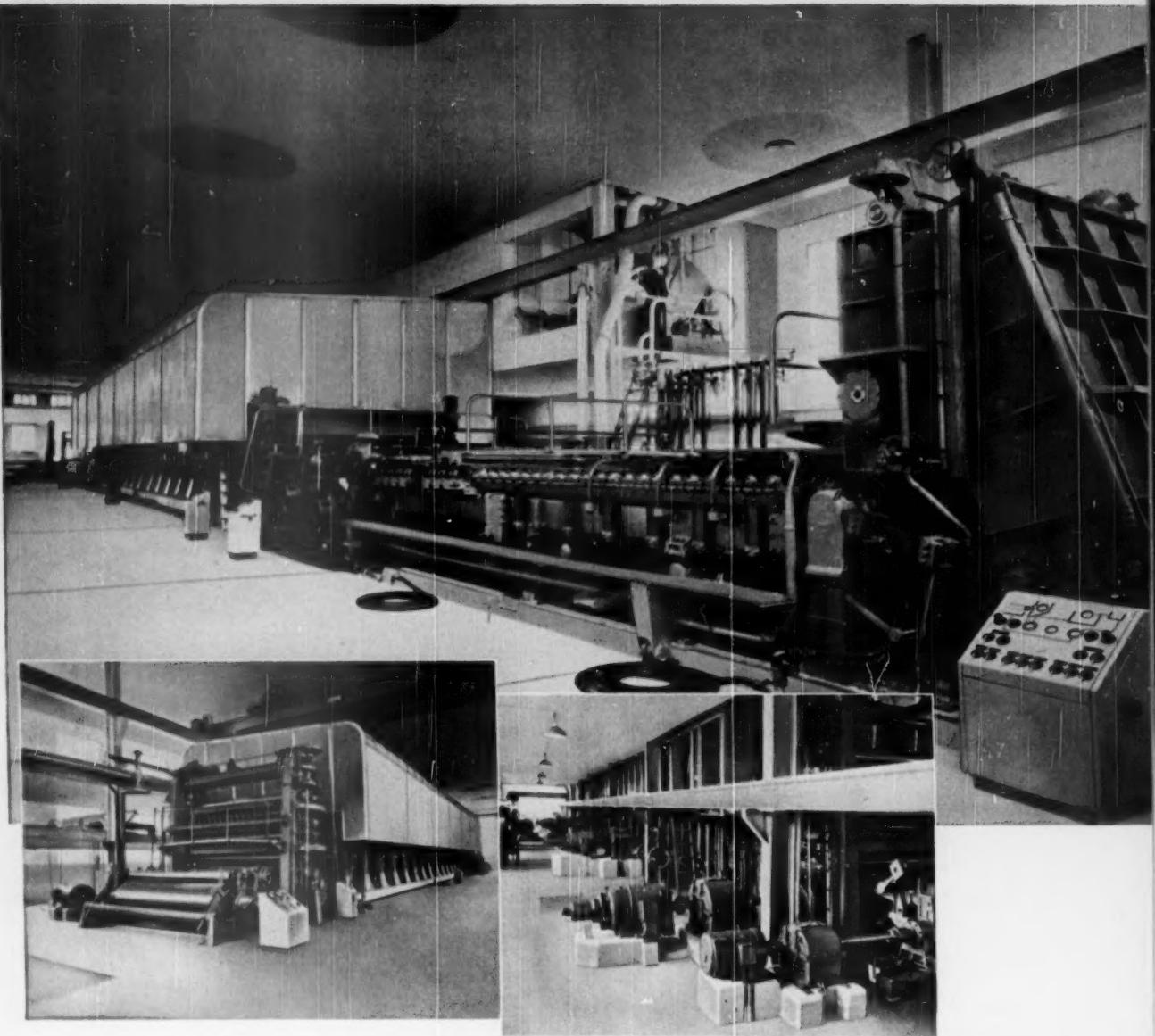
Through these tests we assure ourselves of a supply of strand wire of uniformity necessary to produce high quality fourdrinier wire cloth.

EASTWOOD-NEALLEY CORPORATION • Belleville, N. J.



Puget Pulp goes through a number of screening and purifying processes before it reaches the driers—great, 400 ton machines that receive the almost liquid pulp, drain it on Fourdrinier wire screens, pre-heat it, then pass it over many rolls in the enclosed drying section. The pulp comes out in dry sheets, after a trip of a third of a mile.

**PUGET SOUND  
PULP & TIMBER COMPANY**  
BELLINGHAM • WASHINGTON



#### FEATURES OF THE 138" PUSEYJONES MACHINE AT PAPIERFABRIK UTZENSTORF

**Improved type Flow Spreader** combined with 6 ft. high adjustable slice. Special stock level control.

**Fourdrinier Part** suitable for wire 75 ft. long and 138" wide, seven 7" wide monel suction boxes with oscillating device, 30" suction couch roll with lump breaker roll

and pneumatic draw roll; "Rapi-drape" wire changing device and adjustable wire pitch arrangement.

**Press Part** of dual press arrangement with two 26" rubber covered suction rolls and 32" Stonite covered center roll, also 18" rubber covered top press roll, pneu-

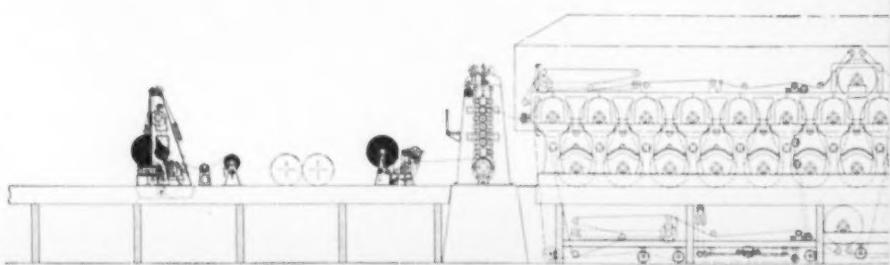
matic nip loading; complete felt equipment and Vickery conditioner.

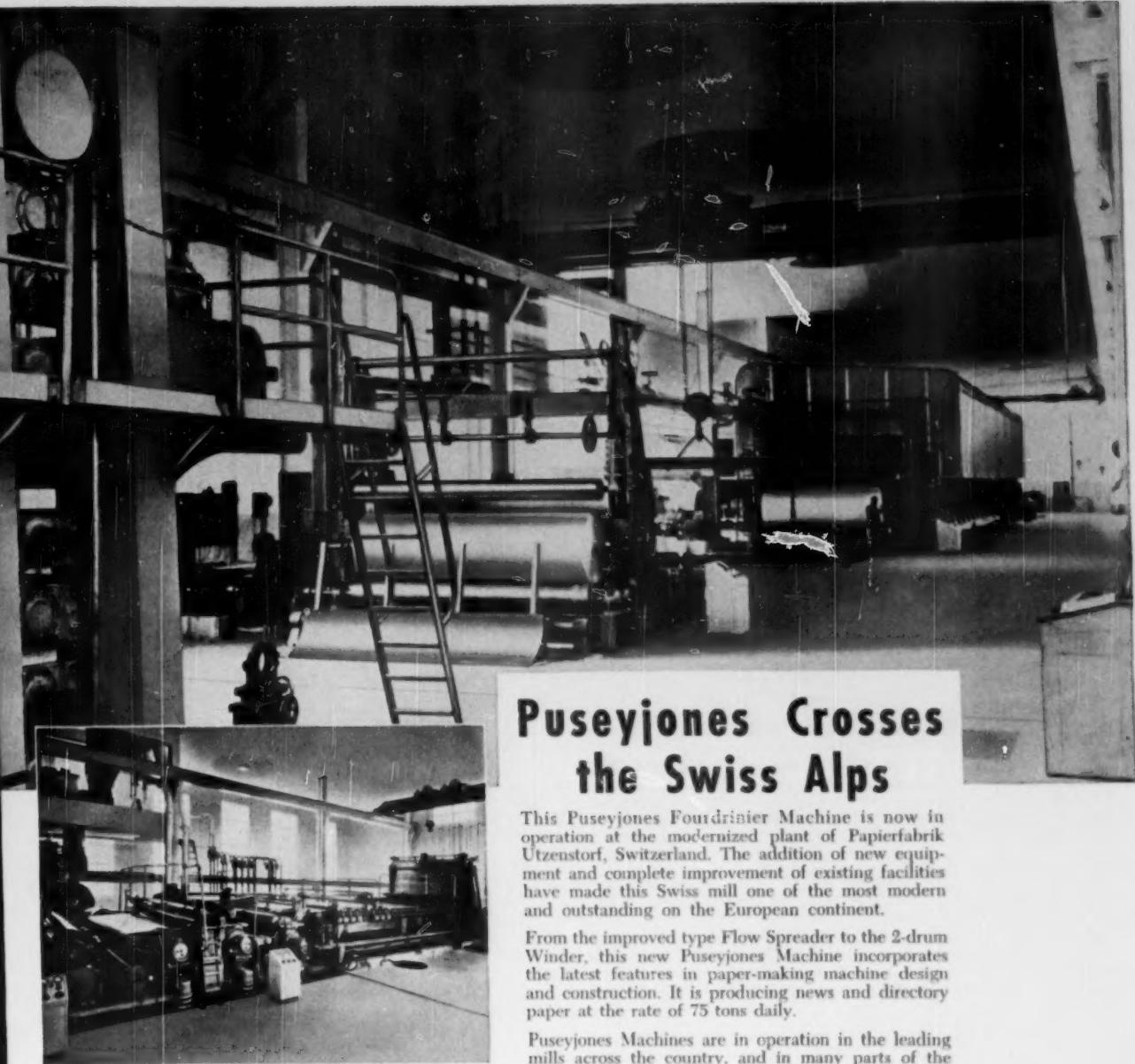
One set of smoothing rolls located between press and dry parts, equipped with 24" upper rubber covered roll and 26" bronze cased lower roll, pneumatic nip loading.

**Dry Part** in two main sec-

tions having one upper and one lower felt in each section; first section comprising 16-60" paper and 4-60" felt dryers; second section comprising 16-60" paper and 2-60" felt dryers; improved type enclosed gearing; Bowser lubricating system; rope feed arrangement with automatic transfer

Line drawing of the new Puseyjones Fourdrinier Machine at Papierfabrik Utzenstorf, Switzerland. Designed and constructed for a maximum operating speed of 1200 feet per minute with Brown Bovari sectional electric motor drive. All rolls except bottom calender equipped with anti-friction bearings.





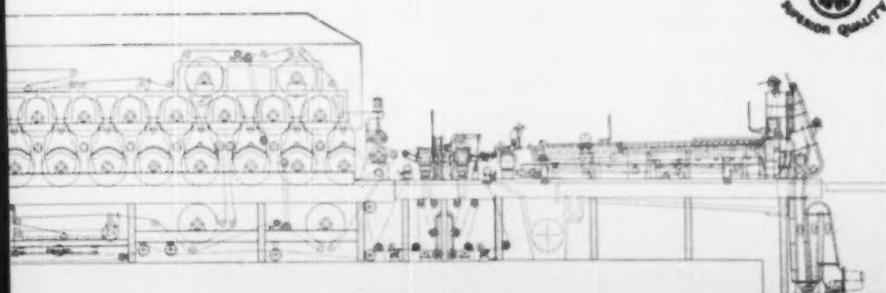
## Puseyjones Crosses the Swiss Alps

This Puseyjones Fourdrinier Machine is now in operation at the modernized plant of Papierfabrik Utzenstorf, Switzerland. The addition of new equipment and complete improvement of existing facilities have made this Swiss mill one of the most modern and outstanding on the European continent.

From the improved type Flow Spreader to the 2-drum Winder, this new Puseyjones Machine incorporates the latest features in paper-making machine design and construction. It is producing news and directory paper at the rate of 75 tons daily.

Puseyjones Machines are in operation in the leading mills across the country, and in many parts of the world, giving continuous, quality production at high speeds. If you are thinking of modernizing or adding to your present equipment, then get the benefits of Puseyjones experience. Puseyjones engineers will be glad to discuss your problem. Write us today.

**THE PUSEY AND JONES CORPORATION**  
**Est. 1848. Builders of Paper-Making Machinery**  
**Wilmington 99, Delaware, U.S.A.**



between sections; automatic motor operated felt tension control devices; improved type steam joints with dual revolving siphons.

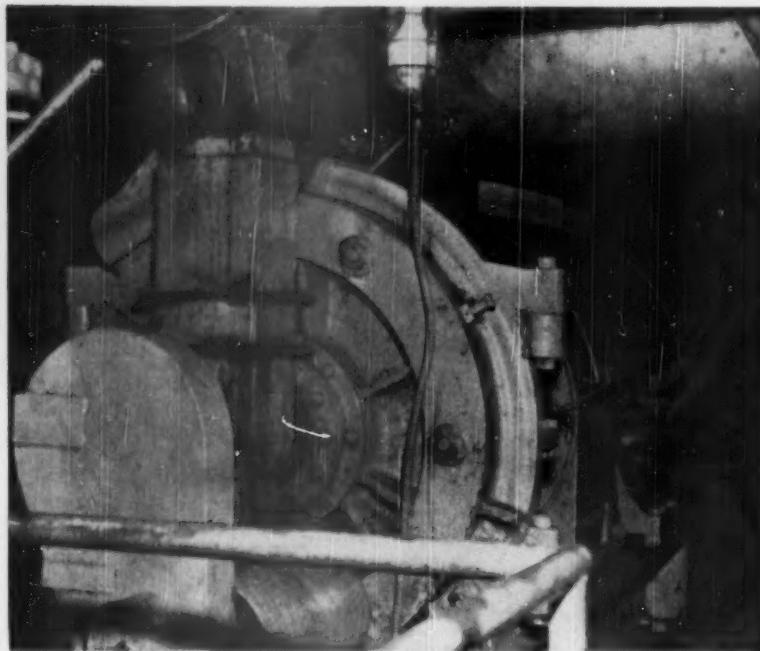
Calender Stack comprising 8 rolls with independent Bowser oiling system for all roll bearings; pneumatic nip loading.

Pope type Uniform Speed Reel of improved design, with pneumatic adjustable loading mechanism.

Unwinding stands equipped with water-cooled brake and pneumatic tension device.

Puseyjones Winder with hydraulic operated roll unloading mechanism.

## CHEMIPULPER WITH DISC REFINER Successful in New Jersey Felt Mill



AS MAY HAPPEN IN ANY MILL, the PULP & PAPER photographer had to squeeze to get this feed-end view of a Sprout Waldron Refiner at Ruberoid Co., Gloucester City, N. J., and there's a reason. Before last war, an improvement program installed Chemipulpers but the layout did not calculate on a Refiner. In fact, Ruberoid is a pioneer in field of chemical defibrating. It pioneered again when it hooked Refiner to Chemipulper, snuggin it in the corner above.

In 1940, some four years after The Ruberoid Co. took over complete ownership of its Gloucester, N. J., mill, it developed the use of semi-chemical defibrated wood in the manufacture of roofing felt and flooring. This installation of a Chemipulper with B-K reaction chamber operating in conjunction with an Asplund Defibrator is among first of its kind in U. S. mills and permitted use of large percentages of wood instead of expensive rags.

In 1948, the mill decided to improve quality of its dry flooring felts. Such improved quality required a further treat-

ment of wood fiber stock after the Chemipulper to get improved quality. A Sprout-Waldron 36-2 refiner was installed for the secondary refining of oak and pine stock for flooring felt. The following results were noted: A long, flexible fiber felt; removal of the shives gives improved surface; thus, in converting, the losses resulting from shives in the surface of the sheet are reduced to a minimum; the better defibrated stock forms a felt with a smooth surface which requires less paint; capacity of the Defibrators is increased.

The furnish for both flooring and roofing

felt consists of wood fiber, rag pulp, and waste paper. The waste papers are pulped in a Hydrapulper. Rags are processed in six beaters. Wood fiber for roofing felt (unlike that for flooring felt) does not receive the secondary refining treatment.

Defibrated wood from the Chemipulper is blown to a cyclone where water is added to wash it into the screw conveyor which carries the fiber from four Type C Chemipulpers to the Sprout-Waldron refiner. Consistency in the refiner is 6 to 8%. From the refiner the stock is diluted and pumped to the machine room, mixed with rag and waste paper stock, and jordaned.

Study of the Chemipulper used with a disc type refiner has shown excellent stock can be prepared at a low power consumption and overall production is greatly increased.

Products of this mill also include deadening and lining felts. Total daily production is 420,000 lbs. Three cylinder machines trim 84, 96 and 124 inches, respectively. Seven Chemipulpers are installed.

### Chemipulper Bulletin

A Bulletin C2-4 describing the Chemipulper, a continuous digester for continuous cooking of chemical and non-chemical pulps, has just been issued by Paper and Industrial Appliances, Inc., New York, N. Y., featuring uses for producing semi-chemical pulps for corrugating board, semi-neutral sulfite and kraft pulps, felts and hardboards.

### Aggarwala Discusses Bamboo

Dr. Jagdish G. Aggarwala, chief chemist of the Shree Gopal Paper Mills of Abdullapur in Punjab, known to technical men in Pacific Coast circles because of his recent attendance at the University of Washington and participation in their activities, has written an article on "Characteristics of Bamboo Celluloses" for the Indian Pulp & Paper Magazine. He describes bamboo as a very important pulp and paper raw material in India, China, Japan, East Indies, Siam, Burma and Ceylon—where per capita consumption of pulp and paper is very low. Much progress has been made, he said, in isolating pure from impure cellulose of bamboo and considerable tonnage of bamboo paper is now made. He indicated quality cellulose could be made successfully from bamboo.

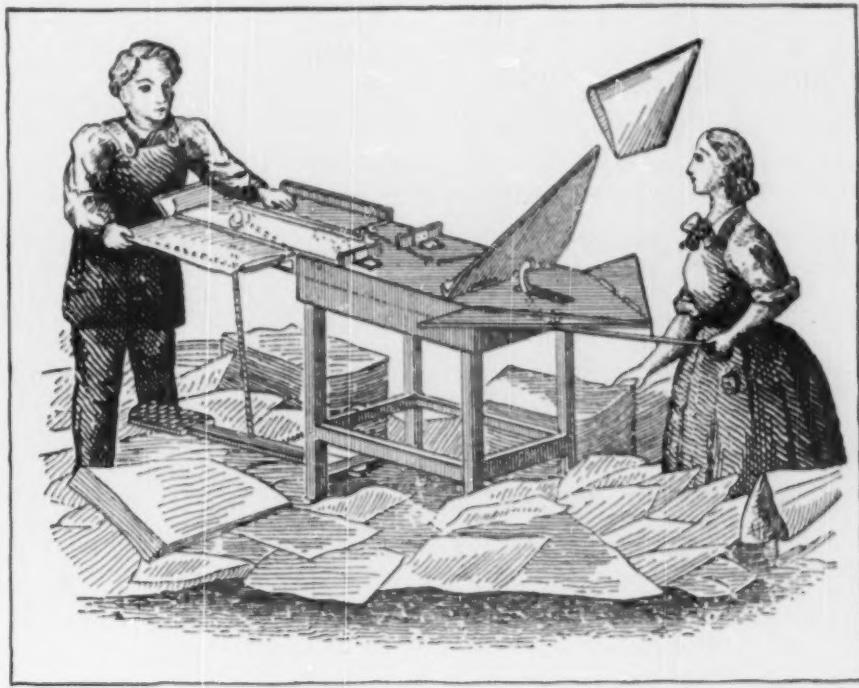
### ROBERT AND COMPANY ASSOCIATES

96 POPLAR STREET • ATLANTA, GEORGIA

*Consulting and Design Engineers to the  
PAPER AND CHEMICAL INDUSTRIES*

HAROLD R. MURDOCK, *Chemical Engineer*

PROCESS STUDIES • DESIGN • POWER PLANTS • INDUSTRIAL WASTE DISPOSAL



*Hand-Operated Bag Machine, about 1835. Illustration from the Bettmann Archive*

## The Bag Business is Big Business

One hundred sixty years ago, inventors were trying to devise a machine that would shape and fasten a piece of paper to form a paper bag. Hand-operated machines were built about 1835. Then in 1852 Francis Wolle, of Bethlehem, Pennsylvania, patented the first automatic bag-making machine. In 1858 he produced an improved machine which made bags from a running roll of paper, cutting, folding, and pasting in a continuous series of operations.

Great modern machines now turn out millions of bags a day, serving the infinite packaging needs of business. Working their miracles, they form every type and size of bag from tiny glassine containers to giant lined bags that hold and protect precious chemicals. So great is the volume that manufacturers of bags and shipping sacks use more than one million tons of paper each year and play an important part in America's great pulp and paper industry.

*The dramatic story of paper is told in the sound-and-color film, "Paper—Pacemaker of Progress," and in a book under the same title. Both are presented by F. C. Huyck & Sons as a tribute to the Paper Industry. The book will be sent free upon request.*

F. C. HUYCK & SONS • Kenwood Mills • RENSSELAER, N. Y.





All across the North American continent, north to south and east to west, the industry is improving woodlands technics and introducing large scale conservation, reforestation and mechanization.

## LABOR PROBLEM IN NORTHEAST

### Power Saws, Better Handling May Solve It



CUTTING LOGS IN YARDING OPERATIONS AT BROWN COMPANY, Berlin, N. H., where 95% of yarding crews own and maintain their own chain saws, cost of which will vary from \$300 to \$500 each, depending on size.



FELLING A NORTHEAST HILLSIDE TREE is made easier in the woods operations of Brown Company by power saw equipment such as this. Here the same type of saw as shown in yard picture (at left) is turned so blade is running horizontally to get a fair-sized tree close to ground.

When it comes to power saws the Northeast is generally regarded as "backward" (at least by power saw salesmen!) and in many woodlands operations in that area men still use bow saws on softwood pulpwood.

That is true at Brown Co., Berlin, N. H., but chain saws are used very generally on the hardwood operations, according to C. S. (Pat) Herr, resident woods manager, and he states that production has been unusually high. Further, closer utilization on the topwood is found to result than was the case with cross-cut and buck saws. By this, Mr. Herr means that the chain saw is fitted more easily into large limbs and forked wood.

"Are power saws and better handling methods the two foremost answers to wood shortages?" PULP & PAPER asked the veteran ex-forester. Said he: "They are very fundamental, particularly with manpower shortages and particularly in the Northeast. We must speed up felling and bucking by power saws, and we must find better methods for handling four-foot wood, whether on trucks, or unloading into water, or pile storage. We have tried a lot of methods, and we are now considering sling loading. I've heard the subject discussed many times by experienced men and there never seems to be much uniformity of opinion. In view of the present world situation, we've got to keep struggling with it."

As high as 95% of Brown Co. workers own their saws, and piece-workers who

represent the 5% using the company saws must show that they know how to file a saw—and that is a trade in itself, as all woodsmen know. Many a Northeaster has had to drop out of a trade in which he's made a living all his life—cutting in the woods—because impaired eyesight made it impossible to file saws properly.

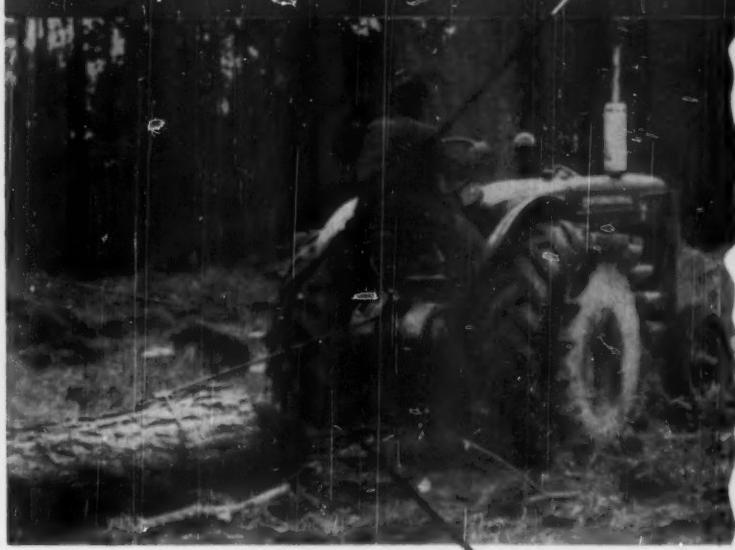
It is not generally considered in a discussion of power saws that they have very materially reduced accidents in woods operation. National statistics indicate that approximately 50% of all woods accidents are caused by the axe. Last season in

Brown operations there were 75 chain saw crews in the operations, nearly all the yarding crews being so equipped. Often two power saws are found in the same yarding crew. Because of cost (varying from \$290 to \$500) the company does not suggest standardization of makes and sizes of chain saws, but it does encourage maximum standardization possible among the leading makes. This naturally makes for lower maintenance problems and encourages standard care and practice that is bound to reduce accidents.

Pat Herr engages in no debates with a woodsman who wants to stick to the bow saw on softwoods. He knows better than that. But the transition could come very soon when it is considered that the nation has one-third less unemployed than at the outbreak of the last war, and German prisoners were finally available to the Northeast. Many of these Germans were woodsmen from birth and production was high.

Further north in New England are companies, such as Great Northern Paper

# new CARCO'S' winch



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Now you can really pull, hoist, and skid with light tractors!

Many loggers are now using small "S" winch-equipped wheel and crawler tractors for ground skidding logs usually handled by heavier, more expensive equipment. An "S" winch on tractors from 15 to 30 h.p. has a line pull to 8,500 pounds—double and sometimes triple its tractor's drawbar pull. That's plenty of power to handle most pine, pole, or furniture wood logs over the bad spots from stump to landing.

The "S" winch is the youngest and smallest of the famous Carco line of winches. Proven dependable, hundreds are now used in pre-logging and re-logging, in land clearing, and in construction work.

Ask your tractor dealer about equipment and opportunities for small tractors to do big jobs. Ask about the plus features of the Carco "S" winch—



- ★ Multiple disc friction clutch provides smooth winching.
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- ★ Oversize ball and roller bearings, oil bath lubrication, one-piece Carcometal case guarantees long life.

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Co., where loggers have even yet successfully resisted power saws for the cross-cut, the buck saw and the bow saw. Nonetheless, all that prevented adoption in Great Northern operations in the last war was lack of maintenance data and training programs, both of which have now been provided to the industry, in addition to five years' experience and considerable improvement in saws.



**FORESTERS ON THE WOOD PILE**—This sextet of working foresters with Brown Company staged tour of the North country recently, that brought together 135 state and national officials, regional leaders and laymen interested in forest activities. They are, lower deck, C. S. Herr, Resident Woods' Manager, and Miles Standish, Chief Forester. Upper deck, left to right, Stanley Wentzell, Superintendent of Logging Operations; William Johnson, Technical Assistant to Mr. Herr; Michael Grigel and Clarence Rand of Forestry division. Woodpile is that at the Millsfield (N.H.) Camp and is for the big heaters in use there.

## LESSONS LEARNED IN LOUISIANA

The importance of using seed from local sources for pine plantings is revealed in the 29th annual report of Southern Forest Experiment Station, of which Chas. A. Connaughton is director. Using a 22-year old Louisiana loblolly pine plantation for illustration, the report shows that seed locally obtained yielded 2.7 times as much pulpwood as seed from Arkansas, with Georgia and Texas sources not much better. The 22-year old plantation produced 42 cords per acre from local seed, but only 15 to 23 cords from other states. Had the 40,000 acres seeded in 1926-27 used Arkansas or Georgia seed, the potential yield in 1950 would have been one million dollars less.

Use of airplanes for seeding large areas was said to hold promise. In using this method on 1200 acres in central Louisiana, results were "good" when fresh long leaf pine seeds were used. The cost was \$4 per acre and well below that of hand seeding.

It isn't the ashes from wood burned that makes the trees grow better; it's the killing of competing grass roots.

Check off a 14-year old slash pine plantation spacing test in Palustris Experimental Forest, near Alexandria, La., showed that 1150 seedlings per acre (6x6 foot spacing) provided 468 trees of 4.6 inch dbh and larger containing 18.3 rough cords per acre and averages dominant tree height of 42 feet.



## - MEETINGS -

Pacific Logging Congress—Multnomah Hotel, Portland, Ore.—Oct. 23-25.  
Society of American Foresters—Golden Anniversary Meeting—Mayflower Hotel, Washington, D.C.—Dec. 13-16.

Forest Products Research Society Annual Meeting and Show—Convention Hall, Philadelphia—May 7-11.

## Foresters Plan 50th Anniversary Meeting

The Golden Anniversary meeting of the Society of American Foresters, commemorating its founding in 1900, will be held in Washington, D.C., Dec. 13-16. First general session at the Mayflower Hotel Dec. 14, will have as its theme, "The Society Takes Stock." The final general session Dec. 16 will center on "The Society Looks Ahead." During the four days there will be nine division meetings.

Charles F. Evans, Atlanta, Ga., president, anticipates attendance of 1,000 members and guests.

## LOGGING EFFECTS ON GROWTH AND STAND

By C. R. Silversides  
Logging Engineer,  
Abitibi Paper & Power Co.  
Toronto, Ont.

Clear cutting is the cheapest method of harvesting timber, and present day economics govern to a high degree our logging practices. Once the mature and overmature areas are removed, and the second crop develops then it is felt that more intensive forestry practices will be possible. Fortunately clear cutting is giving us fairly good results as far as the next crop is concerned—this is because the stands are mature or overmature and advance reproduction is already established so that the clear cut is a harvest cut in silvicultural terminology.

The logging methods most generally used by the pulp and paper companies in Ontario, are seven in number:

1. Cut and pile 4 ft. wood.
2. Cut and pile 8 ft. wood.
3. Cut and bunch 8 ft. wood.
4. Cut and bunch 16 ft. wood.
5. Cut and skid 8 ft. wood.
6. Cut and skid 16 ft. wood.
7. Cut and yard tree lengths.

The only term that may not be common to all of you is "Bunching," which is nothing more than the assembling of bolts in low rounded heaps or bunches, not carefully stacked as is a cord pile of wood.

### Effect of Log Length

Little justification can be found for the various in the lengths of pulpwood cut. It is true that in Quebec and other regions the driving capacity of the side streams requires short 4' bolts to be cut, but often in Ontario two or even three different lengths of wood are cut from the same camp. Analyses of logging operations show that 16' wood is cheapest to produce, 4' wood next, and 8' wood most expensive. This may vary somewhat but is the trend. To carry this still further, tree lengths can be produced more cheaply than any of the above.

The effect of log length upon the residual stand is a subject on which little factual data are available. Utilization of the stand is greater the shorter the wood. Proportions given by one study are as follows: Considering the utilization of 4' wood as 100%, then 8' wood=98.1%, 12' 94.5% and 16' wood 86.4%.

The effect of log length upon the residual stand would probably show little distinction between 4' and 8' wood. 4' and 8' wood, bunched or piled, will in most cases be moved by hand, by being tossed or carried. 16' bunched wood is swung and dragged and would logically break down more advanced growth, even though it might scarify the soil somewhat on a summer operation.

Actually the greatest effect on the re-

sidual stand is caused by the method of operating. By this is meant the strip method of laying out an operating chance. Strips about 60' wide are laid out. The pulpwood cutter working down the center of the strip swamps out a haul road and cuts all the merchantable trees on the strip into 4' or 8' or 16' lengths, and piles the bolts along the road he has made.

Everything on the road is cut clean. Places to pile the wood must be cleared. This means that  $\frac{1}{4}$  to  $\frac{1}{2}$  of the strip area must be cleared completely. The slash from this cleared area is, of course, piled with the other slash on the remaining  $\frac{1}{2}$  of the strip, which is often buried 6'-8' deep.

One area cut over 25 years ago was examined and the old strip roads were still clearly evident—the older growth was thick and the coniferous regeneration would average perhaps 12" in height while the remainder of the strip supported young growth 4" d.b.h.

Logging damage in this method of operation will run up to 75 per cent of the residual stand. In spite of this however, and speaking generally, it has been found that the cutover areas in northern Ontario contain sufficient spruce-balsam regeneration to ensure an adequate seed crop.

In 1947 Abitibi laid out a series of 12 sample plots in one of their Thunder Bay

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**6**

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serve the busy International Paper Co. mills in various parts of the country. Here, a Lorain 50-I Crane with 50-foot boom and woodpulp grab handles 15 to 20 cords per hour of helter-skelter wood at the block pile. The experience of "International" is proof that Lorains will increase output, cut costs, reduce accidents on pulpwood handling operations. Here are good reasons why . . .

**LORAINS** will serve in the woods or at the mill—may be used with slings, pulpwood grab or grapple to suit your size of wood and method of piling. And, for extra jobs, they may be equipped as a shovel or dragline to build haul roads, mill ponds, etc.

**LORAINS** are available for service 24 hours every day—with an efficiency that never varies with the hour, season or weather.

**LORAINS** reduce accidents. On block pile work a Lorain will handle frozen wood, eliminate the hazard of dynamiting and replace 20 to 30 men working on a slippery pile. As a result one mill cut block pile accidents 80%.

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PULPWOOD  
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concessions. The plots were approximately 1 acre in size and were laid out and were tallied before cutting, and were tallied again after the stand had been logged off. The method of cutting was to cut and pile 8' wood along strip roads.

The results were as follows:

|                | Sp. & Bal.<br>up to<br>1" to<br>4' d.b.h. | Sp. & Bal.<br>1" to<br>4' d.b.h. | Sp. & Bal.<br>4' d.b.h. |
|----------------|---|----------------------------------|-------------------------|
| Before Cutting | 2065                                      | 227                              | 2292                    |
| After Cutting  | 908                                       | 65                               | 973                     |
| Destroyed      | 1157                                      | 162                              | 1319                    |
| Per cent loss  | 58  | 73                               |                         |

It is thought that many of the young seedlings will die. They are rooted in heavy moss and, on exposure to the sun as a result of cutting, the moss will die and the seedlings with it.

In the Clay Belt region studies there show a survival of original reproduction of 25 and 50 per cent and the surviving reproduction averaged about 2700 stems per acre on wet flats and 4,000 stems per acre on lower slopes. This great variation in residual stems per acre between that given above for Thunder Bay District isn't the result of logging practice as much as it is due to other factors.

Spruce regeneration declines sharply in number as drainage improves—from 100 per cent black spruce on semi-muskeg sites to 25 per cent stocking or less on the best drained sites. There is every indication that the percentage of balsam will be higher in the second cut than in the original stands.

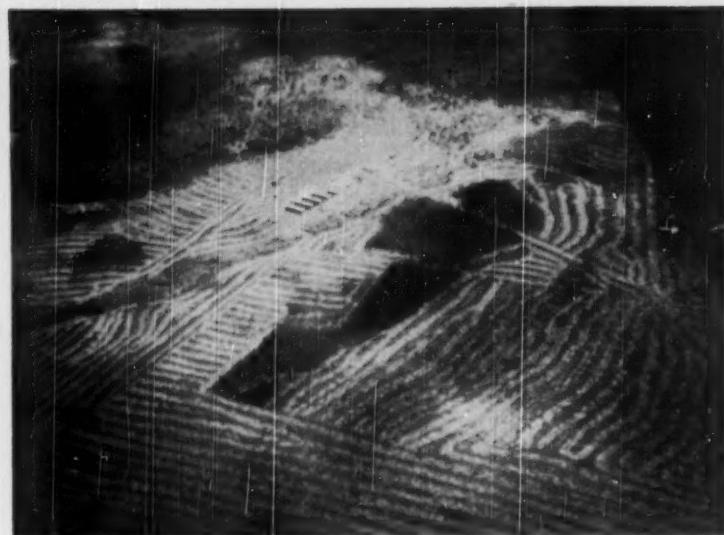
#### Change in Residual Stand

The interesting fact that has become apparent for the remeasurement of cut-over lands is the change that takes place in the composition of the residual stand. Little increase, if any, is found in the numbers per acre but it has been found that spruce as a rule holds its own, while balsam tends to die out. This means that proportion of spruce in the stand is higher 5 to 10 years after cutting than at the time of cutting. In spite of this however, the amount of balsam in the residual stand is much more than in the uncut stand.

The reason for much of the destruction caused by this method of logging is due to lack of training and imagination, and also interest on the part of the cutter. There is no reason why reproduction 12" high or less should be brushed out on the road as it won't interfere with the winter sleigh haul. Also, granted that he must have room to swing his axe, it is not necessary to cut down all the young growth around a tree to fell it. It is felt that much of the logging damage—perhaps 30-50 per cent at least could be prevented by a little care taken by the chopper.

When wood is skidded by horses on pulpwood operations logging damage can be greatly reduced by careful location of the skidding trail and care in skidding. Ground skidding in summer and fall should prove beneficial to reproduction if it disturbs the litter and exposes soil.

The effect of mechanical logging—that is with yarding units—is still unknown. This method of operating is so new that



VIEW OF CUT-OVER AREA of Abitibi Power and Paper Company, Ltd., in Northern Ontario, illustrating strip method of logging. Light areas are strips which have been completely cleared and which serve as haul roads. The bolts are piled along this road. The dark strips represent areas of advanced regeneration, where little damage was done to young trees during logging. Large dark area in center is unmerchantable young growth. Note camp buildings at left center.

sufficient evidence is not yet available as to its effects on the forest. I think it will be agreed that capable yarding is limited to clear cutting operations. In 1948 the Dominion Forest Service conducted a survey of 5 sq. miles on the limits of the Anglo-Canadian Paper Mills at Forestville. The results found there showed that there was little to choose between mechanical or conventional logging as far as effect on residual stand or regeneration. This deals with a spruce-balsam forest—predominantly softwood. The picture will probably be different in pure jackpine stands. It is thought that the mechanical disturbance of the soil and the breaking down of the slash should present much better chances for reproduction than does conventional logging. It will be a year or two before the facts will be known.

So far I have not mentioned specific forest types with relation to various operating practices. Actually what one has, regardless of whether the wood is 4' or tree length, is the effects of clear cutting on the various types.

#### Silvicultural Work

I have made no mention so far of the silvicultural work that is going ahead in Ontario. I think, without exception, that all the companies are carrying out projects of various kinds on natural and artificial regeneration, on selection cutting, on slash disposal, growth studies, etc. This in addition to the work being carried on by the governments.

Spruce Falls Power & Paper Co., Kapuskasing, Ontario, have conducted a number of experimental operations to try to improve the regeneration in the cutover areas. They have eliminated hand bunching of 16' wood as being destructive to advance growth. They cut a tract of tim-

ber over a four-year period, cutting two strips, leaving six uncut, cutting two, leaving the next six uncut. The four-year period is sufficient to include at least one good and one fair spruce seed year. Surveys of the area after cutting, however, have failed to show any improvement resulting from the changed cutting methods. On a similar area alternate groups of two strips were cut and left and the uncut strips were not felled for four years. Again regeneration appeared to be no better than average.

This company also tried a two-cut system on some of its higher ground. Part of the spruce and all of the balsam were cut and skidded—leaving a fair stand of merchantable spruce plus some sapling spruce and balsam. After an eight-year period a survey showed that the residual stand was making good growth but that new spruce regeneration was non-existent. Girdling of hardwoods and thinning of softwood stands have been tried with results that did not justify the cost of these operations. Neither operation encouraged the establishment of spruce seedlings.

It is realized, I think, by all that such information will be employed at a future date, and they wish to be ready to use it when that time comes. In the meantime, in a few instances, on selected areas close to mills some of this work is being done on a commercial scale. In the meantime our silvicultural literature will continue to be far in advance of our operating practice—until the time comes when our large mature and overmature forests have receded to the point that it is economically feasible for us to apply intensive forest practices.

A paper presented at 1950 meeting of the American Pulpwood Association in Duluth, Minn. It was prepared by C. R. Silversides, but read by J. B. Matthews. Mr. Silversides was unable to attend.

# Portability Plus!



## **with this New Skidding Unit!**

Here's the most versatile skidding unit you've ever seen... an Oliver Industrial Wheel Tractor and the revolutionary new Heller Winch. The winch, a double drum type, is installed between the tractor tires and transmission case. It is virtually a built-in unit that does not affect tractor balance.

Drums are operated by the tractor engine and can be engaged or disengaged at will. By using the tractor engine, clutch and transmission to drive the drums, 12 forward speeds and 4 reverse speeds are obtained. Line speeds can be varied from 38 to 928 feet per minute with line pulls up to 36,000 pounds with a bare drum. Drums can be operated together or independently of each other. This versatility makes possible a wide variety of log skidding, tree or stump

pulling work. The tractor can be easily moved from one location to another under its own power. No strains are transmitted to the tractor.

This new unit is equally efficient for ground or high lead skidding. In high lead work, the operator can cushion the haul-in line by simply controlling the brake pressure on the dead side of the differential.

If you're interested in cutting logging costs, it will pay you to investigate the Oliver Tractor-Heller Winch combination. For details, see your Oliver Industrial Distributor or write The OLIVER Corporation, 19300 Euclid Avenue, Cleveland 17, Ohio.

## **THE OLIVER CORPORATION**

A complete line of industrial wheel and crawler tractors

"FINEST IN INDUSTRIAL MACHINERY"



# Burning Sulfite Liquor

## A WISCONSIN MILL'S TEST RESULTS

### A SIGNIFICANT EVENT IN EFFORTS TO ABATE POLLUTION



Stream pollution laws are rapidly being revised and more and more states are putting pressure on industries to eliminate pollution from natural water courses.

This paper by Frank H. Coldwell, left, assistant manager of power of Nekoosa-Edwards Paper Co., and E. H. Kennedy, right, Combustion Engineering-Superheater Inc., engineer, describes one of the important experimental accomplishments of the sulfite industry in its efforts to find a solution to the stream problem.



It was one of the outstanding papers given at the Superintendents' Convention in Chicago this year. It was really a significant event of that convention, because it announced the successful burning of calcium base sulfite liquor and powdered coal, achieving a steam output in a 4-hour run of a 1-to-1 ration in a conventional water-walled and cooled Combustion Engineering power boiler in the Wisconsin mill.

This was a sequel step to the successful trials of the General American Transportation Corp.'s Conkey (Rosenblad) switch system evaporator on calcium base sulfite liquor at Consolidated Water Power & Paper Co.'s Appleton, Wis., mill.

For some mills this combination of evaporation and burning of calcium base sulfite liquor may prove the answer to their stream problems—but each mill must work out its own best system as in every mill the economic factors will vary.

In these boiler tests on the Wisconsin River, a lot of valuable spade work was done in calibrating different nozzles and mechanical atomizers. This boiler had a mechanical ash collector made by Western Precipitation Corp. of Los Angeles and this appeared to do a good job of keeping fly ash in. In a water-walled boiler, mixture with coal was necessary in order to keep the liquor hot enough for burning.

As at Appleton, with the General American (Rosenblad) evaporator, the work was sponsored by the Sulfite Manufacturers' Research League (of Wisconsin and Michigan).

The work with the boiler at Port Edwards was accomplished with the cooperation particularly of these individuals—in addition to the authors of this paper—Jesse M. Holderby, until recently research coordinator for the league (now manager of by-products at Ruijlander Paper Co.); E. L. Smith, Combustion Engineering; Dr. T. A. Pascoe, technical director of Nekoosa-Edwards Paper Co.; E. P. Gleason, manager of power for Nepco, and M. J. Prosser, power supt. at its Nekoosa, Wis., mill.

**By E. H. Kennedy**

**Combustion Engineering-Superheater Inc., New York**

**and Frank H. Coldwell**

**Nekoosa-Edwards Paper Co., Port Edwards, Wis.**

The Sulfite Pulp Manufacturers Research League, in 1949, installed a Single Effect Rosenblad evaporator at Appleton, Wis., to determine the feasibility of evaporating spent sulfite liquor and the difficulties which would be encountered in this work. This was a part of the league's long range program of experimentation to utilize this material and thus provide a method of abating the stream pollution which is attributed to the liquor.

Finding that the equipment which was installed would produce sizable quantities of a liquor of about 52% solids, the league considered it logical to continue the work further and find out what could be done in burning it in commercial boiler units of the type generally in use by the league's

members. The league contacted various equipment manufacturers and in this way Combustion Engineering-Superheater, Inc., became interested in cooperating in the burning of the spent liquor.

Combustion Engineering-Superheater, Inc., had just installed a new steam generating unit with a completely water-walled furnace in the Nekoosa (Wis.), plant of Nekoosa-Edwards Paper Co. This company was approached to see if, as a league member interested in pollution abatement, this unit could be made available for such tests.

Accordingly, a meeting was held in late January 1950, at which representatives of these three organizations discussed the part each could play in the burning of

this material. The league obviously would furnish the liquor, Combustion Engineering was in a position to furnish various sizes and types of burning nozzles and technical personnel to conduct tests and evaluate results, and Nekoosa-Edwards Paper Co. could furnish operating labor, install equipment, and supply its technical force to collect data and prepare certain parts of the results.

Tests were begun March 28 and continued until May 3. Different types of fuel injection guns were calibrated for capacity at different pressures and at the end, two 4-hour tests were run, using four mechanical atomizing burner nozzles and then four steam atomizing burner nozzles.

#### **Object of Tests**

Burning of calcium base sulfite liquor is an accomplished fact in Sweden and some work has been done in this country on liquor from this base. The idea back of these tests was not to duplicate these experiences, but rather to supplement them. It was for this reason that the completely water-walled furnace was chosen as the type on which the burning experiments were to be conducted.

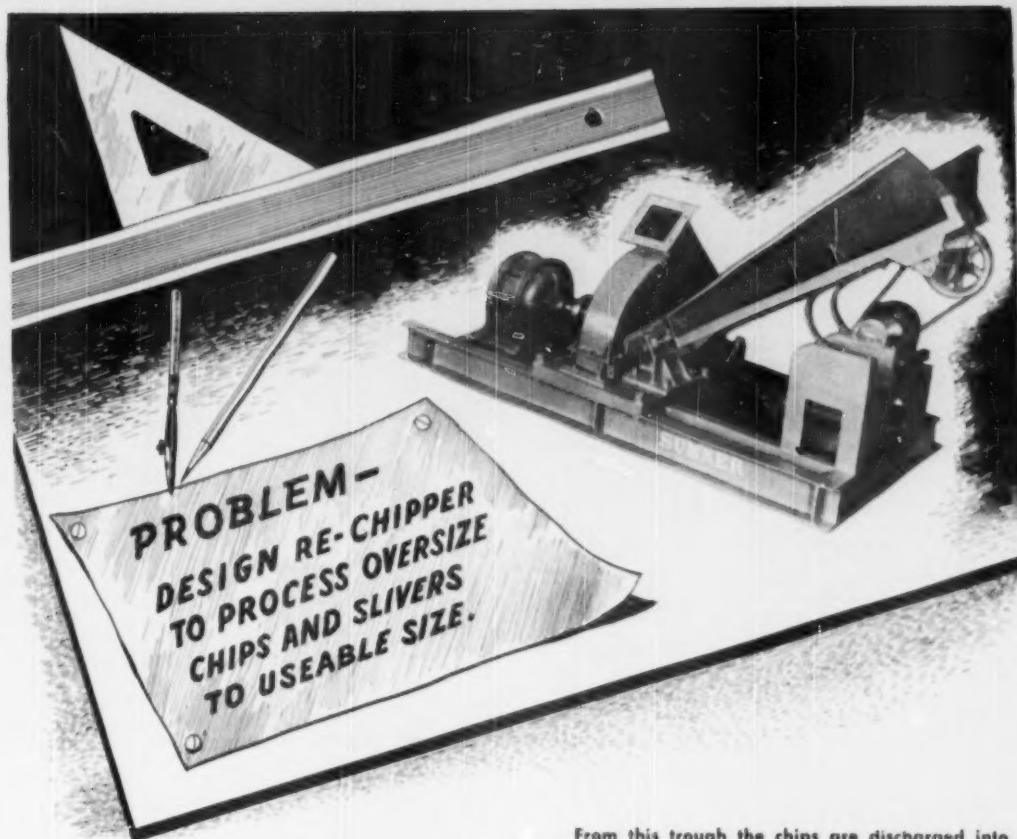
Some of the points we wished to clear up include the efficiency at which the liquor could be burned in such unit, the amount of liquor which could be consumed in relation to the total fuel used, the completeness of combustion, and the possibility of controlling the possible fly ash nuisance with a commercial fly ash collector which was operating successfully on powdered coal.

#### **The Fuel**

Calcium sulfite liquor as it comes from the digesters may contain from 10 to 14% solids, depending upon digester operation, and methods of cooking the pulp. An early sample of concentrated liquor from Appleton showed the following analysis:

| Liquor Analysis:     |  |
|----------------------|--|
| Total solids         | 51.7%                                      |
| pH value at 70°F.    | 4.0  |
| Viscosity at 70°F.   | 750 Centipoises                            |
| Saybolt secs.        | 7996 BTU per lb.                           |
| Furol                | 310 Combustible                            |
| Seconds Engler       | 90 8930 BTU per lb.                        |
| Viscosity at 200°F.  | Centipoises                                |
| Saybolt secs.        | 25 Ash Analysis—Laboratory Burned Sample:  |
| Furol                | 17 Total calcium as CaO                    |
| Saybolt secs.        | Universal 129 58.02%                       |
| Seconds Engler       | 3.5 Total sulfate as SO <sub>4</sub>       |
| Spe. grav. at 70°F.  | 1.27 as CO <sub>2</sub> 32.93%             |
| Spe. grav. at 200°F. | 1.23 Probable                              |
| Density at 70°F.     | 10.60 lbs. per gal.                        |
| Density at 100°F.    | 10.26 lbs. per gal.                        |
| Dry Solids Analysis: | Combinations:                              |
| Carbon               | 41.50% Calcium sulfate                     |
| Hydrogen             | 4.75% Calcium carbonate, CaCO <sub>3</sub> |
| Oxygen               | 38.32% Calcium oxide, CaO                  |
| Nitrogen             | (by diff.) 1.37%                           |

(Continued on Page 86)



## THE SUMNER RE-CHIPPER

Recognizing the increasing demand for a Re-Chipper that would properly reduce oversize chips and slivers to chips of a usable size for pulping purposes, SUMNER engineers, in 1948, gave the solution of this problem a high priority rating.

The designing of such a machine was complicated by the problem of feeding the light, unmanageable oversize chips into the blades lengthwise, for satisfactory cutting.

This problem was met by the unique auxiliary chute attached to the SUMNER Re-Chipper pictured above. This vee-shaped trough is connected to a small motor with an oscillator which "shakes" the chips into alignment for proper feeding.

From this trough the chips are discharged into a stationary vee-shape spout, thence into the chipper bed. This spout is fitted with renewable anvils having hard-faced cutting surfaces.

The Re-Chipper is driven by a separate motor, connected to the arbor by a flexible coupling. The unit is mounted on a self-contained steel base.

For the past year, the first new SUMNER Re-Chipper has been satisfactorily performing its functions at the Crown-Zellerbach plant in Camas, Washington, according to mill-operators.

This is factual proof of the capabilities of the SUMNER Engineering Department to assist in answering some of the many problems pertinent to Wood Room operations.

Detailed information on all SUMNER equipment will be gladly furnished on request.

**SUMNER**  
IRON *Since 1892* WORKS  
EVERETT, WASHINGTON  
Canadian SUMNER IRON WORKS LTD., VANCOUVER, B.C.

|                           | Reducing Atmos. | Oxidizing Atmos. |
|---------------------------|-----------------|------------------|
| Initial deformation temp. | 2660            | 2380             |
| Ash softening temp.       | 2670            | 2390             |
| Fluid temperature         | 2680            | 2400             |

### Boiler and Furnace

The spent sulfite liquor was burned in a standard Combustion Engineering-Superheater, Inc., Type VU steam generator rated at 125,000 lbs. of steam per hour at 400 psi. and 700°F. temperature at the superheater outlet. (Figures Nos. 1 and 2.) This boiler is normally fired by four Type RO burners in the front wall with powdered coal furnished by two Raymond Bowl Mill pulverizers. The drum center distance is 22 feet. The furnace is completely water-cooled, is 17 ft. 10 ins. wide and 16 ft. 7½ ins. deep. Following the boiler is a tubular air heater and a Western mechanical type ash collector ahead of the I.D. fan.

### Sulfite Liquor Equipment

Fifty percent (approx.) sulfite liquor was stored in a 10,000-gallon tank car just outside the boiler house. It was pumped, by means of a gear pump driven by a 10 hp. motor, to either of two wooden tanks inside the boiler house. (Figure No. 3.) These tanks were used for measuring the volume of liquor burned during the tests. One tank held about 350 gallons and the other about 600 gallons. Each tank was supplied with a steam heating coil in the bottom. From the wooden tanks, the liquor flowed by gravity through either side of a twin strainer to the suction side of a DeLaval IMO pump of 1800 to 2000 gals. per hr. capacity, driven by a 7½ hp. motor. (Figure No. 4.) This pump discharged to two indirect steam heaters connected in series. These heaters were filled with tube bundles and were about a foot in diameter by five feet long. From the heaters the liquor was led to the burners by suitable piping and valves. (Figure No. 5.)

The "guns" or atomizers used for burning the liquor were of both the mechanical atomizing and steam atomizing type. They were similar to the standard types of oil gun or atomizers found on the market. The mechanical guns used were equipped with tips of 250 gal. and 350 gal. per hr. capacity. Three kinds of steam atomizing guns were used, equipped with tips to burn from 200 gph. to 400 gph. We had originally anticipated we would have to burn 400 gph. per gun to handle the liquor from a 100-ton sulfite mill, assuming a solids recovery of 2200 lbs. per ton of pulp. Actually, a little more liquor may have to be burned, as one plant in the Wisconsin area reports recovery of some 2400 lbs. of solids per ton of pulp.

### Results of Tests

Most of the earlier tests were of short duration and run mainly for the purpose of calibrating the various burner tips for capacity. The last two tests were of longer duration and the results are more reliable. Test No. 14 was run on April 21 for a period of 4 hours, using four mechanical guns. The coal burning rate was adjusted as low as possible on the four burners and out of a total load of 98,000 lbs. of steam per hour, 40% of the steam was generated by the sulfite liquor. Liquor was burned at the rate of 1385 gallons per hour. The rate of liquor burning was limited by the size of the liquor burner tips and the available liquor pump pressure.

A glance at Figure No. 6 will show the constant rate at which the liquor was burned in the mechanical guns. Here elapsed time is plotted against cumulative gallons burned. This plot indicates that, under the conditions of this test, the sulfite liquor was handled with ease and continuity. The following table lists pertinent data obtained from 4-hour Test No. 14 using four mechanical burners:

|  |                |
|--|----------------|
| Total liquor burned—4 hrs.             | 3541 gals.     |
| Liquor burned per gun                  | 346 gph.       |
| Total coal burned per hr.              | 27,000 lbs.    |
| Lbs. steam/lb. coal—prev. period       | 8 lbs./75 lbs. |
| Total steam from coal during test      | 236,000 lbs.   |
| Total steam made during test           | 392,000 lbs.   |
| Total steam made from coal             | 236,000 lbs.   |
| Total liquor solids burned during test | 30,800 lbs.    |

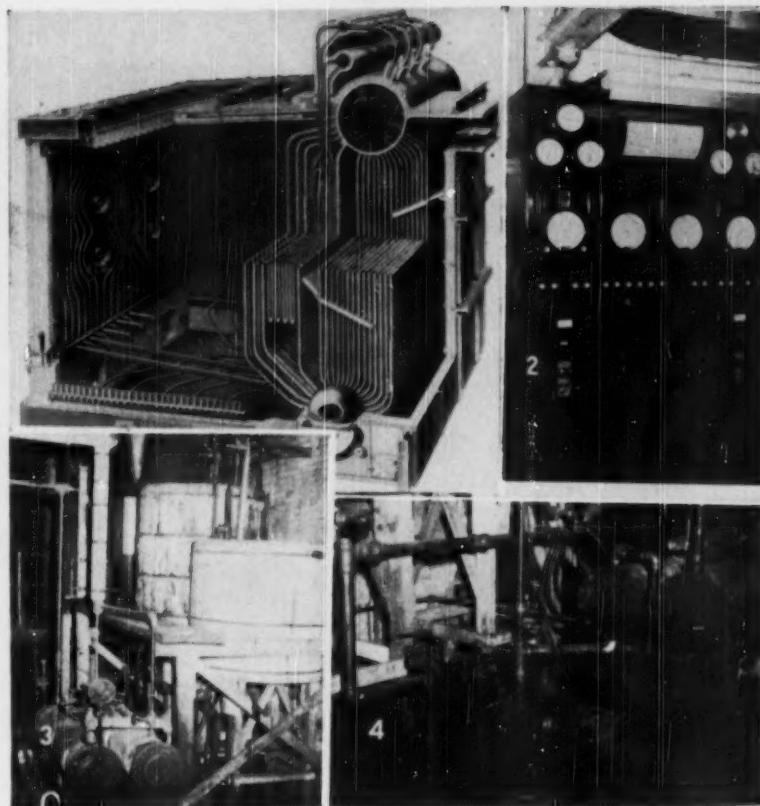


FIGURE 1—COMBUSTION ENGINEERING boiler of VU type used in sulfite liquor burning at Port Edwards, Wis., mill.

FIGURE 2—Panel board with Bailey controls for the CE boiler.

FIGURE 3—Liquor measuring tanks and Midwest Heat Service Co. heaters.

FIGURE 4—De Laval IMO Liquor Pump of 1800-2,000 GPH capacity with screens and heaters.

|  |                 |
|--|-----------------|
| Actual lbs. steam/lb.<br>dry liquor solids                   | 5 lbs./0 lbs.   |
| Equivalent lbs. steam/lb.<br>dry liquor solids (test)        | 6 lbs./0 lbs.   |
| Equivalent lbs. steam/lb.<br>dry liquor solids (theoretical) | 8 lbs./225 lbs. |
| Indicated efficiency   | 73.0%           |

Average % CO<sub>2</sub> leaving I.D. Fan 15.4% In the foregoing calculations, the assumption was made that coal was burned with the same efficiency during the liquor burning test as it was when burning coal alone. During the test, samples of liquor, coal, and ash refuse were taken so that heat balance calculations can be made when the results of the analyses are available in order to determine more accurately how much steam was made from sulfite liquor.

Test No. 15 was run April 26 for 2½ hours using four steam atomizing guns. The coal was cut as low as possible on two upper burners and completely cut off of two lower burners. Two small oil burners using about 25 gals. of oil per hr. each were used in the two lower burners to maintain close ignition on the lower liquor guns (See Figure No. 5.) Out of a total steam output of 77,000 lbs. per hr., 48% was made by the sulfite liquor. The liquor was burned at a rate of 1370 gals. per hr. and could have been increased but was limited because of our supply of sulfite liquor on hand in order to run a longer test.

Figure No. 7 shows the rate and continuity of burning the sulfite liquor during Test No. 15 using steam atomizing liquor guns and the following table gives a summary of test data:

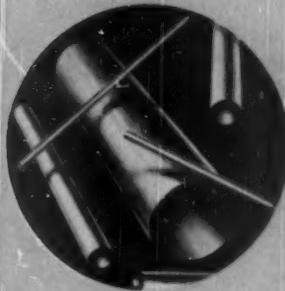
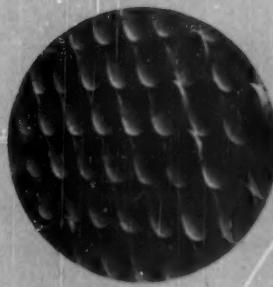
|                                  |            |
|----------------------------------|------------|
| Total liquor burned during test— | 3768 gals. |
| 2½ hours                         |            |

|  |                 |
|--|-----------------|
| Liquor burned per gun  | 344 gph.        |
| Total coal burned during test                                | 11,200 lbs.     |
| Total oil burned during test                                 | 1100 lbs.       |
| Lbs. steam/lb. coal—prev. period                             | 8 lbs./61 lbs.  |
| Total steam from coal during test                            | 96,432 lbs.     |
| Total steam from oil during test                             | 13,930 lbs.     |
| Total steam made during test                                 | 211,345 lbs.    |
| Total steam made from coal and oil                           | 110,362 lbs.    |
| Total steam made from sulfite liq.                           | 100,983 lbs.    |
| Total liquor solids burned                                   | 20,592 lbs.     |
| Actual lbs. steam/lb. dry liquor<br>solids                   | 4 lbs./92 lbs.  |
| Equivalent lbs. steam/lb. dry<br>liquor solids (test)        | 6 lbs./1 lb.    |
| Equivalent lbs. steam/lb. dry liquor<br>solids (theoretical) | 8 lbs./225 lbs. |
| Indicated efficiency   | 74%             |
| Average % CO <sub>2</sub> leaving I.D. Fan                   | 15.3%           |

### Heat Balance

It has previously been stated that the pounds of equivalent steam from and at 212 degrees F. released per lb. of dry solids from the sulfite liquor was 6.0 or a little better. This value was based on the assumption that the lbs. of steam from one pound of coal was the same during the test with sulfite liquor as before the test with coal alone. After having the coal and liquor analyzed for heat values and the refuse samples analyzed for percent combustible, heat balances were made for Test 14 with mechanical atomizers and Test 15 with steam atomizers. Heat balance calculations showed the following results:

|  |     |
|--|-----|
| Test 14—mechanical atomizers—            |     |
| lbs. equivalent steam dry solids         | 6.0 |
| Heat to steam in % of heat in dry solids | 75% |



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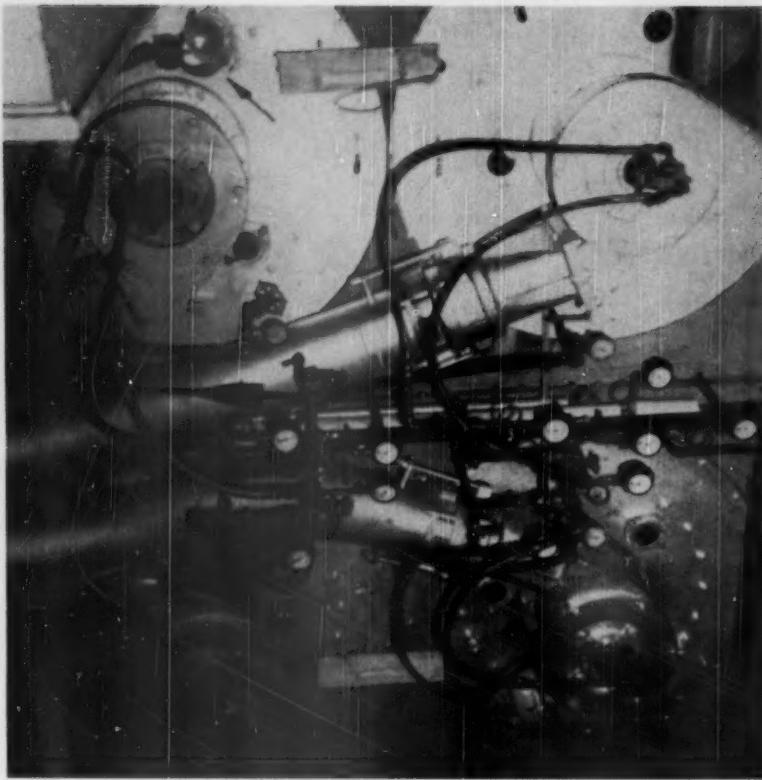


FIGURE 5—BURNERS ARRANGED FOR LIQUOR BURNING at Port Edwards Sulfite Mill. Shows small oil burners used in Test 15. Note auxiliary oil torches are in use.

|  |       |
|--|-------|
| Test 15—steam atomizers—                 |       |
| lbs. equivalent steam/dry solids         | 5.82  |
| Heat in steam in % of heat in dry solids | 72.3% |

This lower steam production and efficiency from steam atomizers is due to the added water vapor loss from the atomizing steam.

#### Fly Ash Control

Data collected for test 14 have been calculated to show the amount of refuse escaping past the flue dust collecting system. About 20% of the total refuse escaped up the stack to the atmosphere. Some refuse is, of course, deposited in the setting so this figure of 80% represents the overall unit collection rather than the true Multicloner collector efficiency which would be less, depending on the amounts dropped before reaching the collector.

In making calculations of the amount of refuse which normally collects in different parts of the boiler setting, it was assumed that 12% of the ash collects in the ash pit, 6½% in the first pass and 6½% in the second pass hoppers. This is the experience which obtains with this type of boiler setting on other fuels. Therefore, the dust collector received approximately 75% of the total ash produced on this basis. A little more than 26% of the refuse entering the Multicloner fine dust collector escaped to the atmosphere, thereby showing a collection efficiency of about 74%. Swedish technical literature indicates mechanical collector efficiencies of from 60 to 75% when burning sulfite liquor.

Mechanical collectors of Multicloner type base efficiency on varying factors, one of which is the percentage of material to be collected below a 10-micron size. (Micron=1/25000 in.) Size determinations have been made on samples of the material passing the dust collector, on tests using coal only, and the combination of coal and sulfite liquor as fuel. These determinations show remarkable size similarity in the material

which escaped to the atmosphere. The results indicate that for coal only, 78% to 84% of the material escaping to the atmosphere was less than 10 microns in size. For the combination fuel of coal and sulfite liquor 76% to 81% of the material escaping to the atmosphere was less than 10 microns in size.

#### Effect of Concentrated Liquor on Equipment

The auxiliary equipment of transfer pump, liquor feed pump, indirect liquor heaters, valves and piping previously mentioned were examined after the tests for any evidence of wear, scaling, and deterioration. This was all part of the regular paper mill equipment and no special materials were involved.

It had been thought that rapid deterioration might take place but no evidence

was discovered to indicate any serious immediate attack had occurred on these ordinary, cast iron, steel and bronze parts. This does not in any way indicate that these parts are suitable for continuous use as the exposure was only on the order of 35 hours.

We did find that there was rapid erosion of the carbon steel burner tips through which the liquor was sprayed to the furnace, which experience has been repeated in another plant conducting similar burning trials. A set of steam atomizing tips were tried which were made of hardened tool steel. Although these were used only a short time, they did not show appreciable wear. Only a longer test period will indicate how long they will stand up. Another pair of steam atomizing tips showed no appreciable wear on the internal brass parts for the total time used, about 15 or 16 hours. The outside part of the tips, made of mild steel, did show some wear due to abrasion or corrosion, indicating that it should be made of a different material.

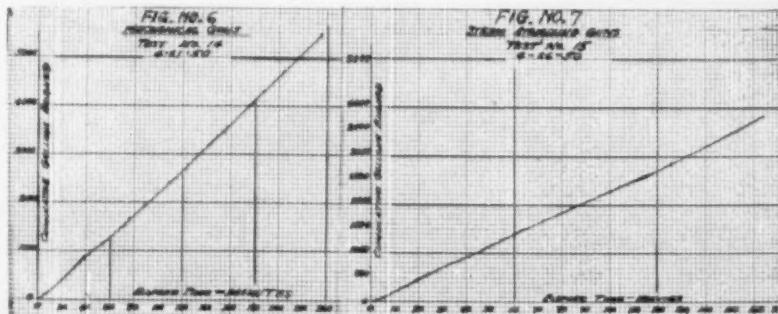
The mechanical atomizing tips, including the cap and breaker plate, were made of mild steel which had been case hardened. These tips showed appreciable wear on the inside faces which were subjected to the high velocity and swirl of the liquor. They had been used probably about 15 hours and the indications are that such mechanical tips would have to be made of much harder abrasion and corrosion resistant material. No particular scaling of the indirect liquor heaters could be determined, but again, the exposure was short.

#### General Remarks

It does not appear from our short tests at Nekoosa or from work done in Sweden, that any serious trouble will be encountered from furnace, boiler tube, or superheater tube fouling as long as the liquor is atomized finely enough and the furnace is large enough to burn the fuel completely before it leaves the furnace.

The problem of handling the ash is similar to that of pulverized coal ash and can apparently be accomplished in about the same way and by the same means. However, about 1½ to 2 times as much ash results from burning sulfite liquor as from coal for the same heat input.

Trouble from corrosion of metal surfaces because of the presence of  $\text{SO}_2$  and





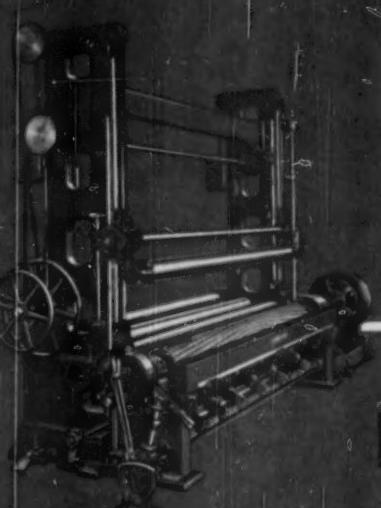
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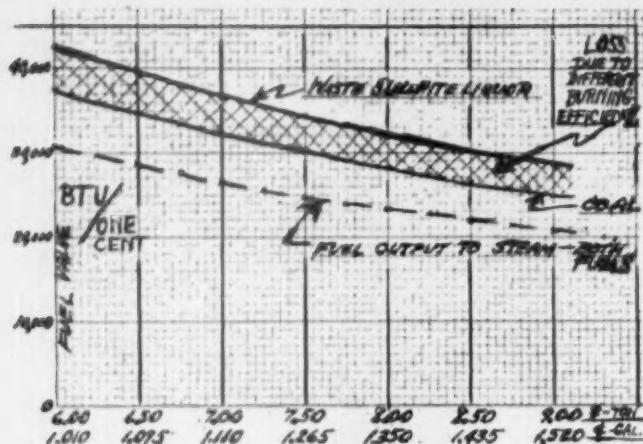


FIGURE NO. 8—RELATIVE FUEL COSTS AND VALUES FOR COAL AND SULFITE LIQUOR

This interesting chart shows the results at the Nekoosa-Edwards mill in dollars and cents. Data is based on equal fuel outputs.

The vertical columns show coal costs in dollars per tons and waste liquor costs in cents per gallon. Horizontal lines show fuel value-BTU/1 Cent. This is based on using waste sulfite liquor at 7,990 BTU/#Dry Solids; 52% solids; 72.5% efficiency. And using cost at 12,500 BTU/#Dry Solids; 10% moisture; 82.5% efficiency.

small quantities of  $\text{SO}_2$  should not occur as long as gas-touched surfaces are kept well above the dew-point of the gases. Some thought should also be given to the effect of these gases on stacks if the gas temperature should get down to the dew-point before they leave the stack.

The problem of disposal of spent sulfite liquor by burning is one made up of several phases. To satisfy the demands for abatement of pollution, a maximum percentage of the liquor produced in the process must be collected. To satisfy the needs of the power house and keep combustion losses at a minimum, it must be evaporated to as great a degree as can be done physically. To permit economical evaporation, liquor must be collected at maximum solids content. And finally, to produce the greatest amount of saleable product, in this case steam for the pulp or paper mill, it must be burned efficiently.

It is not within the scope of this discussion to attempt to describe either the systems for collection and evaporation or the problems connected with the operation of such systems. It may be pointed out, however, that a 100-ton sulfite mill will produce enough heat units after the liquor has been reduced to about 50% or 52% solids content, to make in the neighborhood of 40,000 lbs. of high pressure, high temperature steam per hr. Up to roughly one-half of this output will be required to prepare the liquor for burning, leaving a balance which can be evaluated against the commercial fuel in use. Thus the economic position of an installation can be computed.

Because of variations in cooking methods, the solids content of the digester liquor can vary relatively widely, throwing great strains on any type of collection

and evaporation systems which may be considered. Such variations as well as any regulatory measures which may become operative in regard to the amount which must be collected may force changes in the systems employed by individual mills, in physical dimensions at least, and possibly in overall design. Needless to say, the corrosive nature of the waste liquor itself intensifies the need for ingenuity in designing the apparatus for preparing the liquor for burning, since much acid-resistant and hence costly steel will be involved.

Reduced to its lowest terms, this indicates that any mill considering the burning of sulfite liquor will have to evaluate its own problem. It must work back from the steam which can be delivered from its known tonnage through its own processes, discarding old apparatus and methods where different or more modern methods become indicated by its own known needs in the disposal of the sulfite liquor. It does not appear that any "packaged job" is indicated as a solution, each installation will be individual depending on the requirements of the mill, and the economic aspects will accordingly vary from mill to mill.

#### Conclusion

A general statement has been made that this liquor can be burned at an efficiency somewhere about 10% less than the commercial fuel presently employed in an existing boiler.

Actually in these tests, a liquor-only burning efficiency has been achieved of about 74%. The boiler unit used, regularly operates, on coal, in the neighborhood of 83%. The difference is occasioned mainly by the additional moisture in the

liquor which must be evaporated and superheated to the exit gas temperature. Figure No. 8 shows what this unavoidable loss amounts to in terms of the cost of coal and what the evaporated liquor must cost to produce the same amount of steam at the same cost.

One general statement may be safely made: No mill can hope to "break even" by using this method of disposal, until it can produce a liquor evaporated to burnable consistency, at a cost considerably less on a BTU basis than the commercial fuel it is presently using.

**D. W. AMBRIDGE**, president of Abitibi Power & Paper Co., has resigned from the board of Polymer Corp., Canada's synthetic rubber enterprise with which he was associated during World War II.

**JOSEPH C. BROWN** was named in August as kraft mill shift foreman filling vacancy at Weyerhaeuser Timber Co., Pulp Division, Longview, Wash., resulting from Claude Christiansen's resignation, who became kraft pulp superintendent in a new western mill. Mr. Brown is a graduate of Institute of Paper Chemistry. He has been working in the Pulp Division technical department at Longview.

**JOHN M. MILLER** became chief electrician at Crown Zellerbach Corp., Camas, Wash., Aug. 1 filling vacancy left by retirement of **FRED STEVEY** who was affiliated with the organization 38 years.

**LEONARD GREGER** has become assistant to the chief electrician, the position formerly held by Mr. Miller. Other recent retirements at the Camas plant include Charles Roth, 20 years with C-Z; A. B. Hughes, 37 years; Florence E. Rancore, 32 years; A. Otto Pieritz, 44 years; and J. Grant Salisbury, 44 years. Mr. Salisbury was electrical maintenance supervisor and is succeeded by L. W. Baille.

#### Jury Decides for Mill Odors In State of Florida

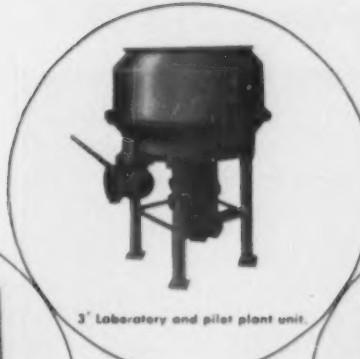
A 1930 state constitutional amendment in Florida gave pulp and paper mills the "right" to emit normal production odors providing the mill was modern in equipment and was operated efficiently. Nevertheless, during the first year of its kraft and board operation in Jacksonville, 1938, many complaints were issued against National Container Corp., these resulting in more than 90 lawsuits in an attempt to enjoin it from operating. The Florida Supreme Court directed a verdict against the plaintiffs in these suits, recognizing that pulp mills do emit odors.

Despite this experience in 1938 two notices of suits for damages against NCC were filed in 1947, based on four counts of air pollution. Three were on alleged physical damage to properties, a fourth on typical nuisance stipulation. Final verdict on the case which was set for Mar. 27, 1950, is now in: "Not guilty on all counts," said the jury after 15 minutes of deliberation. Time for an appeal has passed without an appeal being filed. Some legal observers believe the verdict sets precedent for states having similar laws.

Standard design with cast iron tub.



3' Laboratory and pilot plant unit.

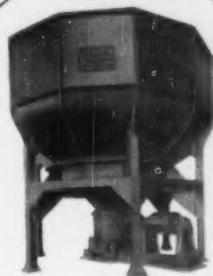


HH type unit for special locations.



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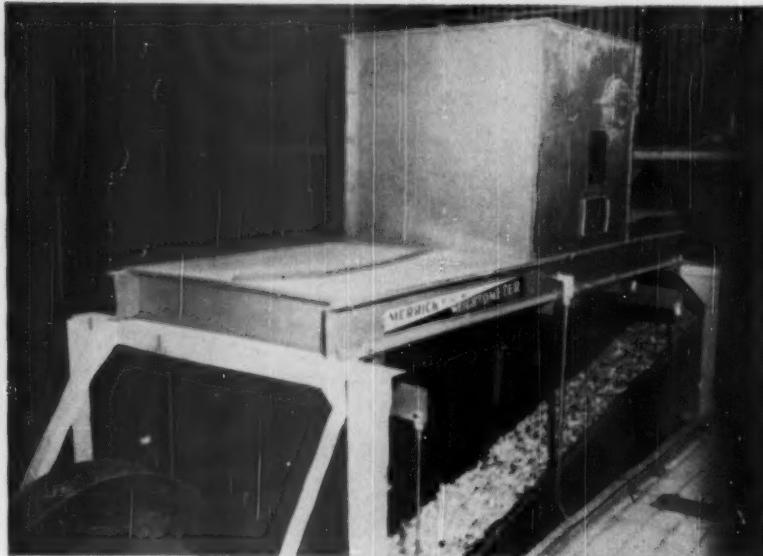
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# MILL GROUPING BENEFITS

## How Weyerhaeuser Did It



MERRICK WEIGHTOMETER weighing-recording all chips moving from chipping plant to chip storage at Springfield, Ore., containerboard plant of Weyerhaeuser Timber Co.

The integrated forest products industries operations of Weyerhaeuser Timber Co., Springfield, Ore., is recognized as a prime example of mill grouping to facilitate diversified production. By-products of each plant contribute to the other in form of fuel, steam or raw products.

Power in form of superheated steam, a by-product of the 150-ton containerboard plant, is piped to the central power plant. Wood by-products from lumber division go to the power plant and containerboard mill. Planer shavings and sawdust from planing mill and sawmill bark, sawdust and "dirty wood" are utilized at the power plant to provide low pressure steam and electricity throughout the entire operation.

Containerboard raw product wood coming from sawmill includes sound, clean wood in form of slabs, cants, and miscellaneous lumber by-products such as edgings and trim.

Other pulpwood sources include trims and other clean wood arriving by box car and truck from other sawmills in the vicinity, 8-foot farmer logs of 4 to 18 in. diameter, and small logs from the company's own permanent timber supply, the Calapooia tree farm. These pulping logs are the product of prelogging and re-logging carried on in the tree farm, which both increases timber utilization and serves as a timber management aid.

Pulpwood reaches the chip plant in two primary forms—with bark or clean ready to be chipped. The small company logs and farmer logs are barked in a Fibre Making Process M-bar barking drum.

### How Weightometers Are Used

Primary chipping facilities consist of three Carthage chippers—a 96 in. and two 64 in. units. The 64s are used for chipping wood coming from the company's and other sawmills (excepting cants) and the 96 chips cants and debarked logs.

Five Model E Merrick Conveyor Weightometers are used in the system for accurately determining the amount of wood handled at various points. One Weightometer behind the 96 in. chipper indicates output of that unit, another Weightometer weighs entire output of chips coming from all three chippers. Chip production of the two 64 in. chippers can readily be determined by subtracting amount produced by the 96 in. unit from total chip plant production.

Two Weightometers, located between chip plant and hog, weighs chip plant refuse which is subsequently converted to power-plant fuel along with the dirty sawmill wood.

Wood reaching chipping plant from the sawmill is charged to the pulp division account and the amount returned from chipping plant to the lumber division's power plant is credited to the pulping account.

With Weightometers weighing the amount of refuse wood returned to the lumber division, and weighing chips from 96 in. chipper and the entire amount of chips from the entire plant, basic data are provided for accurate determinations concerning chipping operations.

The fifth Merrick Weightometer, located in chip storage building on the belt trans-

porting chips from storage to digester, weighs the amount of chips making up charge for each cook.

Other Merrick machines in the containerboard operations are two Feedweights located in the recovery boiler building. These take salt cake from storage bin and discharge it to a salt cake mixing tank in measured, regular amounts by weight for mixing with black liquor before it is burned in the furnace.

An exclusive detailed description of the entire containerboard plant was published in the Nov. 1949 issue of PULP & PAPER, page 42.

In addition to the above, four Model E Merrick Weightometers are in the integrated adjoining Lumber Division at Springfield, for weighing refuse from the sawmills.

### Large Plant Expansion Planned at Sumner, Wash., Mill

Plans are being prepared for a large plant expansion on 11 acres of land adjoining present facilities at Sumner, Wash., by Fibreboard Products Inc., according to T. L. Carey, district sales manager. The enlargement is part of a 10-year plant betterment and improvement program started in 1946 involving expenditures of upwards of 50 million dollars. The Sumner Division is one of 15 Fibreboard plants on the Coast and serves the Northwest and Alaska with shipping containers. Cartons for this area are furnished by the recently completed Fibreboard plant in Portland.

### Chem. Engineers in Georgia Form New Club

There are no TAPPI sections in the South and nearest affiliate of the Institute of Chemical Engineering is Knoxville, Tenn., so a Coastal Georgia Chemical Engineers' Club has been formed in Savannah with a large number of pulp and paper technical men as members.

First officers are: James R. Lientz, general superintendent of Union Bag's Mill Division, Savannah, chairman; H. J. Hafner, of Hercules Powder Company, Brunswick, vice chairman; Ellis Barnes, of Union Bag's By-Products Development Group, secretary; and David Wetherhorn, of Southern Paperboard Corp., treasurer.

### Japanese Visitors

Miyouji Kawashima, chief, planning section, production department, and Yoshiro Koga, acting chief, research section, engineering department, both of Jujo Mill, Jujo Paper Manufacturing Co., Chuo, Tokyo, Japan, have been visiting Pacific Coast mills.

### Another New Board Mill for Far West

Long-Bell Lumber Co., one of world's greatest lumber firms, announced plans for a new pulp hardboard mill of 55 tons daily capacity, to be completed by early 1951 or sooner, at Longview, Wash., utilizing its wood waste now burned. Wood fibers will be mixed with bonding agents and formed in board under heat and pressure.

# SOUNDVIEW



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**BLEACHED  
SULPHITE PULP**

**SOUNDVIEW PULP COMPANY  
EVERETT WASHINGTON**



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**INSTALLS**  
**11 WEIGHTOMETERS AND FEEDOWEIGHTS**  
**in their**  
**SPRINGFIELD, OREGON OPERATIONS**

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**Personals**

**News About Industry "Affiliates"  
The Equipment and Supply Men**

**JOHN L. AYRES**, with du Pont 16 years, 15 as colorist in the technical lab on paper problems, and a bomber pilot in the South Pacific war, has been appointed du Pont sales representative in the Pacific Northwest for its Organic Chemicals Dept., with offices in Portland, Ore. He succeeds **THOMAS D. JOHNSON JR.**, who has been transferred to the home office in Wilmington.

**JAMES H. BINGER** has been elected vice president and general manager of the Belfield Valve division (Philadelphia) of Minneapolis-Honeywell Regulator Co., it is announced by Harold W. Sweatt, president.

**DANIEL V. LENT** has been appointed assistant professor of pulp and paper technology at Western Michigan College of Education, to work with Dr. Alfred H. Nadelman, who heads the paper technology course which is new there. Born in 1923 in Garfield, N.J., Mr. Lent obtained B.S. and M.S. degrees at N.Y. State College of Forestry and was graduate assistant in pulp courses. He worked two summers at the Hammermill mill and one at IP's at Livermore Falls, Me.

**W. Z. ZIMMERMAN**, ex-chief engineer of Abitibi Power & Paper Co., and **T. A. BURTON** are the consultants for the projected R. O. Sweezey pulp and newsprint mill at Edmonton, Alberta. Address care of R. O. Sweezey, 132 St. James St., West, Montreal, Canada.

**COL. ALBERT HOOKER**, western sales manager of Hooker Electrochemical Co., Tacoma, Wash., was recently elected to the board of Seattle Trust and Savings Bank. An accidental dynamite explosion started a fire that destroyed \$25,000 in buildings at Col. Hooker's famous Hereford cattle farm south of Tacoma in August. None of his 80 prize cattle was injured and they have been moved to a Spokane farm.

**J. PETER MUNTON** has been appointed chief engineer of Rice, Barton Corp., replacing **EVERETT W. CLEM**, recently named vice president in charge of engineering as announced in these pages. Mr. Munton is a graduate of the University of New Hampshire with a degree in mechanical engineering. He joined the Rice Barton organization from International Paper Box Machine Co., Nashua, N.H. He was appointed assistant chief engineer in 1942.

**Reliance Promotions**

Promotions to key engineering posts at The Reliance Electric & Engineering Co., announced by W. R. Hough, engineering vice president: **JOHN L. FULLER** has been appointed technical coordinator with responsibility for coordination of special projects, technical investigations and experimental program. **CHARLES R. SUTHERLAND**, who formerly directed engineering for smaller size Reliance motors, has been promoted to manager of engineering for Ivanhoe Division products and director Large Motor Engineering and High Frequency Engineering Groups. **EARL C. BARNES** is made manager of engineering for the Ashtabula Division, responsible for design of both a-c and d-c products.

**K. R. KNOBLAUCH** has been named

manager of sales of valve products for the industrial division of Minneapolis-Honeywell Regulator Co., it is announced by L. M. Morley, Honeywell vice president and general sales manager of the company's industrial activities. **CHARLES F. WOODS** has been named valve division sales manager for the southwest region, headquarters at Dallas. **EDWARD J. BYRNE** has succeeded Mr. Woods as industrial manager at Dallas. **HOWARD W. GRIESBACH** has been appointed industrial manager at Milwaukee.

**JAMES C. LOWE**, sales engineer out of Chicago for Oliver United Filters Inc., was fatally injured in an automobile accident recently.

**Pillsbury Distributors**

Pillsbury Mills, Inc., Industrial Products Division, Minneapolis, Minnesota, have recently appointed Van Waters & Rogers, Inc., with offices in Seattle, Portland and Spokane, as distributors of their Pre-Measured Amylase Units, a revolutionary new enzyme development for coating and tub sizing. Warehouse stocks of the units are to be maintained in Seattle and Portland for customer convenience.

**LARGE PAPER MACHINERY MANUFACTURER** interested in securing services of an assistant superintendent of machine shop, also erecting men for shop and field work. In reply, please state age and experience. Reply to P&P Box No. 84, c/o PULP & PAPER, 71 Columbia Street, Seattle 4, Wash.

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**SALES EXECUTIVE** — 48, Member T.A.P.P.I., S.A.P.I., wide acquaintance with Publishers, Converters, Merchants, Printers. Experienced Book, Bond, Coated, Groundwood, Sulphate. Capable Manager. Personable, Aggressive. Available October 15. Write Box 83, c/o PULP & PAPER, 71 Columbia St., Seattle 4, Wash.

## Italians Buy Equipment in U. S. for Rome Mill



Two representatives from S.P.A. Celulosa D'Italia "Celdit" paper mill of Rome, Italy, spending summer months in the U. S. are Walter Ciampa, (left-above) assistant superintendent, and Renato Marinelli (right) electrical engineer.

While here they purchased modern paper mill machinery and learned of equipment use by visiting manufacturers and pulp and paper mills, the trip and purchases being under the E.C.A. program.

Mr. Ciampa visited Bagley & Sewall plant at Watertown, N. Y., purchasing a paper machine, and E. D. Jones & Sons Co., Pittsfield, Mass., where he bought refining equipment. He subsequently went to the Pacific Northwest, remaining at the Crown Zellerbach Corp., Camas, Wash., plant for about 1½ months, and returning to the Atlantic Coast to visit other mills.

Mr. Marinelli's first call was at General Electric Co.'s Schenectady, N. Y., plant to study the G. E. electronic amplidyne speed regulator for sectional paper machine drives. He, too, subsequently went to Camas C-Z plant, there observing electronic equipment in operation. He returned to Cleveland to stay a week at Reliance Electric & Engineering Co. plant, learning about drives for a supercalender purchased from Appleton Machine Co., Appleton, Wis.

"Celdit," now a strawboard mill, is to be expanded and modernized to run 60% strawboard and 40% wood pulp, according to Mr. Ciampa.

## NEW MACHINE FOR FINCH, PRUYN

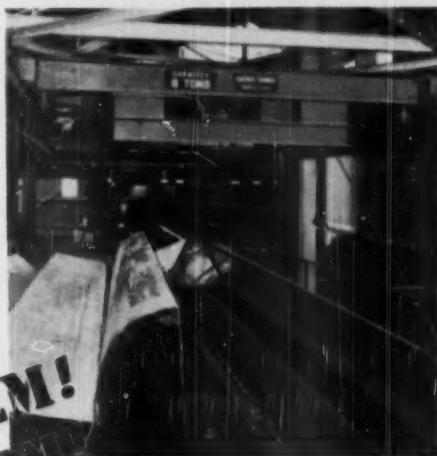
A new 122-inch Fourdrinier machine will replace the old No. 1 machine (1905) at Finch, Pruyn and Company, Inc., Glens Falls, N. Y., for operation shortly after the first of 1951, according to H. F. Bulard, vice-president. The new machine is being built by Pusey & Jones to completely replace No. 1 which is an 80-inch trim machine (considerably modernized

in the Twenties and again in the Thirties) which has been running largely on hanging, drawing and other converting papers.

The new machine will be devoted to bleached groundwood printing papers at 1000 feet per minute on a trim of 110 inches. Grades made by the old No. 1 will be made on one of the other two machines in the mill. The Corliss engine now driving No. 1 will be replaced with a DeLaval 400 hp steam turbine driving through a line shaft and gear reduction units with airflex clutches. There will be additional Briner economizer units to complement the present system, with a new air system, both to be installed by J. O. Ross Engineering.

Head box will be stainless steel, with

a 60-inch high slice of the VandeCarr type, Fourdrinier of high speed shaking design, suction couch and two suction presses of Downingtown design and a smoothing press. The dryer section will be arranged in three sections, containing 14, fourteen and 11 48-inch dryers, the last 11 installed in the dryer train after a sizing press. There will also be ten felt dryers. Complete Sheahan patent paper carriers will be installed, and lubrication is Bowser system. The finishing part of the machine is to consist of eight 12-inch, one 16-inch, and one 24-inch calender rolls of 115-inch face, a Pope uniform roll and a Pusey & Jones high speed slitter and winder with braking control.



JERK 'EM!  
PULL 'EM!  
LIFT 'EM!  
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CANTING CRANE

Release jammed logs and cants from conveyor and chipper easily and quickly—with an EDERER custom-built canting crane. The 6-ton floor-controlled fixed hoist crane shown here was engineered with just the lift, capacity and angle pull called for by this special job. Result—man-hours saved—dollars saved.

Other EDERER cranes, custom-built for the pulp and paper industry, are equally efficient and economical—because they're built to job requirements. An EDERER engineer will be glad to talk with you about your plant's special needs.

Stand-by Cranes • High-Lift  
Cranes • Calender Cranes •  
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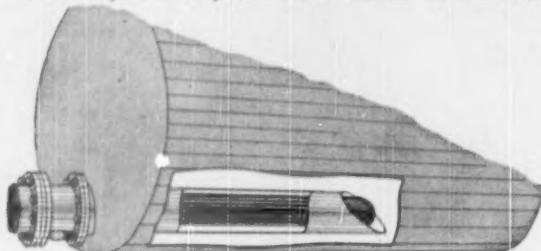
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**EDERER**  
ENGINEERING COMPANY

2931 FIRST AVE. SO. SEATTLE 4. WASH.

## ALASKAN "OIL SUCTION" HEATERS

Takes the load off the pump and pre-heats fuel oils to the required temperature for use at the burners.



Often, with long oil lines these units are used as a first stage heater to facilitate pumping and a second stage Alaskan Type "B" unit is used as a final heater. Economy is provided by controlling the flow of oil through the inner shell only as oil is required, thus preventing general heat dissipation to the entire tank and minimizing the size heater required. Complete disassembly and removal can be effected by disconnecting the head flange bolts.

### ALASKAN COPPER WORKS

3609 East Marginal Way

Seattle, Washington

### New Hercules Defoamer Comes in 2½-lb. Brick

A new effective defoamer in unique, convenient form—2½-lb. bricks—has been introduced by Hercules Powder Co. Called Defoamer 4, the easy-to-handle brick is packaged in an individual carton and will make about 40 gallons of a final dispersion at 0.75% solids. Twenty bricks—enough defoamer for 800 gallons of dispersion—are packaged and shipped in a corrugated container which can be stored in a small space and can be stored indefinitely in a cool place without losing effectiveness.

### New B. C. Committee

The newly-formed Pacific Coast alkaline sub-committee of the Technical Branch, CPPA, held its organization meeting in the board room of Bloedel, Stewart & Welch, Port Alberni, recently. The Bloedel organization was represented by J. Petrie, Einar Walloe, H. Adams, F. Miller and E. McLean; Pacific Mills by D. Lloyd, and the H. R. MacMillan Export Co. Pulp Division by Donald H. Baker. It was decided to select as a project for study the cleanliness of pulp.

### J. O. Ross Moves Office

The New York office of J. O. Ross Engineering Corp., for many years at 350 Madison, has been moved to new and larger quarters at 444 Madison Ave., New York 22.

### Warren Steam Pump Purchases Quimby Pump

William W. Shuttleworth, executive vice-president of Warren Steam Pump Co., Inc., announces purchase of Quimby Pump Division of H. K. Porter Co., Inc., Pittsburgh, Pa., by Warren.

The purchase includes inventory, patterns, good will, etc., and all manufacturing will be transferred to the Warren plant. It is felt by the management that the addition of Quimby Pumps will be a valuable addition to the present Warren line.

### Idea for Cleaning Rotor

Harry Moore, a 23-year veteran of the mechanical crew at Ontario & Minnesota Pulp & Paper Co., Ltd., Kenora, Ont., won his sixth suggestion award, \$30, by suggesting a method of reducing the time it takes to clean or change rotors, in the 60 motors in the plant, from seven to two hours apiece.

Mr. Moore's idea is a simple track and chain hoist arrangement, which can be mounted on the motor when changing or cleaning of the rotor is desired. The device consists of two eight-foot long angle irons, placed back to back, but several inches apart, thus forming a track for two trolleys running on top of the angle iron. While in use, the angle irons are securely fastened to the top of the motor housing by a heavy steel plate. Estimated first year's savings amounts to approximately \$240.

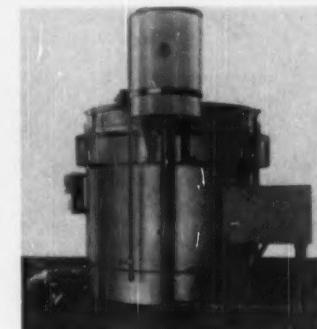
### Chemical Linings Inc. Associated with Nukem

Chemical Linings, Inc., Watertown, N. Y., and Nukem Products Corp., Buffalo, N. Y., are now associated in a working agreement, Murray H. Bennett, head of Chemical Linings, announced.

This firm will now broaden its operations, engaging in the installation of acid brick work in steel, chemical processing, and food processing industries, where Nukem has operated for years. Nukem will continue the manufacture of acid and alkali resistant cements, membranes and protective coatings as well as pumps, heat-exchangers, etc., for handling corrosive liquids.

Nukem will receive additional outlets for its products through Chemical Linings, Inc., in the pulp and paper industry.

The Schoellkopf banking interests at Buffalo, who control Nukem, approved the arrangement. William Schoellkopf was elected a director of Chemical Linings. Officers are: Mr. Bennett, president; Elgin A. Branche, treasurer, and Leon W. Robb, secretary.



**THE NEW BIRD-GIBBS CLARIFIER** for efficient, continuous clarification of paper mill process water, by Bird Machine Co., South Walpole, Mass., is shown above. It operates on Fourdrinier and cylinder machine white water, mill waste water in general, board mill combined waste water, and de-inking plant waste water. It removes the suspensions of fiber, filler or other matter, returning good, re-usable stock of high consistency and delivering water of exceptional clarity.

Operating on white water containing as high as 25 lbs. of fiber and filler per thousand gallons, the Clarifier consistently removes 98 to 99% of the total suspended solids and the recovered stock runs from 12 to 15% consistency with the fiber-filler ratio unchanged from the original white water, says the announcement.

Complete information may be obtained from Bird Machine Co., South Walpole, Mass.

### Hannah Catalog

A new catalog completed by Hanna Engineering Works, Chicago, Catalog No. 233-A, has 28 pages of illustrations, specifications, design, construction and operation features, and suggestions for uses of Hanna high pressure hydraulic cylinders.

### Supts. Sponsor Contest

Why Profit Is Everybody's Job is the subject of the Fourth Bolton Award Contest, open not only to members of the Superintendents Association, but to all employees in North American mills.

Manuscripts should preferably not exceed 1,500 words, be typed double-spaced on one side of each sheet; and mailed to the Secretary-Treasurer, The American Pulp and Paper Mill Superintendents Association, Inc., 111 West Washington St., Chicago 2, Ill. Only entries post-marked before midnight Nov. 1 will be accepted. Prizes—\$1,000, first prize; \$750, second prize; \$500, third prize; and ten prizes of \$100 each, awarded by John W. Bolton and Sons.

### Packaging Show Exhibits

Western Packaging & Materials Handling Exposition exhibits, recently shown in San Francisco, included: Marking pen brushes with no ink suspended in the barrel; capsuleating machines; a new Simplex-o-matic automatic packaging machine; a new Stokesfeed paper box gluing, feeding and wrapping machine; new Grip-a-Tab dispensers; Kimberly-Clark (Kimpak) disposable blanket; an array of novel paper boxes, including a "doggie-box," by Andre Paper Box Co.; and many others.

### New and Enlarged Edition Of Foxboro Handbook

"Principles and Practice of Flow Meter Engineering," by L. K. Spink, has been published in a new and enlarged edition by The Foxboro Company, Foxboro, Mass. Price, \$7.00.

This handbook, widely accepted as a standard text and guide, was first published in 1930. Much new and valuable material has been added. Mr. Spink is well known as an engineer who has devoted many years to the study of flow measurement.

### New Dorr Bulletin

A new twelve-page, two-color bulletin entitled "The Dorr Continuous Recausticizing System for Alkaline Pulp-  
ing Process" explains the system as a whole on a qualitative basis and describes each unit of equipment and its function. The primary purpose of the Dorr Continuous Recausticizing System is recovery of soda chemicals. It also performs a number of secondary functions essential for economic pulp mill operation. Write The Dorr Co., Barry Place, Stamford, Conn.

### New Gates Catalog

The new Gates Vinyl Finish and Coating Catalog, now off the press, describes many of the pulp and paper and other plant maintenance applications of this coating in an attractive two-color, four-page brochure, available upon request directed to Box 1711, Wilmington, Del., or to Chemical Proof Construction, Inc., 71 Columbia St., Seattle 4, Wash.

## ... for the answers to ALL your CORROSION-RESISTANT PIPING PROBLEMS



(Left and Right) Two examples of standard butt-welded fittings furnished in flanged assemblies. By using standard Tri-Clover fittings, we can often solve many "special" problems with a minimum of extra fabrication. Send for Catalog 748 covering the standard "Zaphy-weld" fitting line.

(Right) Special 16" inlet header for paper mill job fabricated of type 304 Stainless Steel, with 28" IPS connections, using Van Stone flanges.

(Left and Right) 24 inch O.D. Tri-Clover welding fittings of mitre-joint construction—further examples of the special fabrication available to meet individual requirements. While standard Tri-Clover fittings incorporate streamlined "sweat" construction, we are equipped to fabricate practically any other type, in sizes through 16" O.D.

TRI-CLOVER offers you the best one source of supply for all your corrosion-resistant piping problems. Our specialized experience in alloy fabrication is your assurance of best results and lower over-all cost in the long run. When it comes to expert welding, fabricating and annealing of complex assemblies, you just can't beat the speed and accuracy offered with TRI-CLOVER'S exclusive Heli-Arc Atomic Hydrogen Welding ... a specialized semi-automatic process that assures highest quality and FULL corrosion resistance.

TRI-CLOVER fittings are now being used in mills operated by West Virginia Pulp & Paper, Champion, Marathon, Dexter, International, Southland, and others. Let our corrosion specialists furnish detailed recommendations covering fittings and special prefabricated assemblies to meet your specific requirements. Send us your layout sketches.

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SANITARY FITTINGS, VALVES,  
PUMPS, TURBOS, SPECIALTIES



FABRICATED STAINLESS STEEL  
INDUSTRIAL FITTINGS AND  
INDUSTRIAL PUMPS

THE Complete LINE

## WAR AND INDUSTRY

(Continued from Page 35)

tivities, some industry men were wondering why a part of Washington did not come to New York or Chicago instead of the other way around. It would mean fewer on the move, less weight on accommodations.

And in August the worry about the shortage of rail cars was surrounded by news of a railroad strike. The Association of American Railroads was trying to up member-owned cars from 1,727,873 to 1,850,000, make repairs for October's peak loading, shove up the average movement to 50 miles a day per car. Said E. W. Tinker, executive secretary of APPA:

"The objectives merit cooperation." Indeed, they did, and the industry was cooperating. But not the Army. Once again industry found that a war in the Pacific is rough on transportation; trainloads of Army materials ran across the nation for Seattle and San Francisco piers, and rattled eastward empty while the wood-using industries of the West Coast pleaded for cars.

The British industry apparently felt about the same as the U. S. industry on controls. It admitted the increasing effect of Russian threats, and the necessity for more production. It heard complaints, and feared "the Board of Trade stepping in again." (here it parted company with the U. S. industry, which has the medal of

adequacy from Commerce) and mills were giving each other warning that should the industry fail to control itself, the government would.

Will wages rise before the government steps in? The answer may lie in the flying start given to a fifth round of increases by Chrysler, which did not need to consider contract changes until July, 1951. It is reported Ford and U. S. Steel will have to follow; other industries usually follow autos and steel, labor history shows. The fundamental point is that man-power shortage threat is believed to be behind the Chrysler move.

### New Cotton Linters Plant

Mexican investors and two affiliates of Celanese in that country will build a 12,000-ton pulp plant using cotton linters, available in great volume and now being exported. Nacional Financiera, S. A., government controlled bank, will invest as well as the rayon companies, Viscosa Mexicana, S. A., and Celanese Mexicana, S. A. Cost will be around \$3,000,000, according to Celanese offices in New York, which said the mill will be in a cotton growing area near Monterrey. There are now four rayon plants in Mexico, three new since the war—using considerable wood pulp from the U. S. and Sweden for raw material.

An authorized spokesman in the New York office of Celanese claimed that the new cotton linters plant would affect dissolving pulp purchases very little. Mexican interests of Celanese have been good customers of several U. S. producers, and it is stated by observers in the industry that Celanese will want to retain to a large extent an appreciable control of supply over the Mexican operations. It is also incumbent on Celanese to take practical notice of Mexico's cotton industry. This, the company claims, is its primary reason for the cotton linters plant which will furnish clean linters for production of cellulose for viscose rayon.

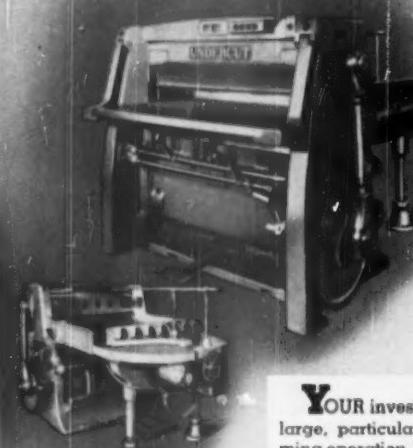
The new British Columbia woodpulp mill of Celanese will affect both the Mexican industry and the U. S. industry to the extent that it furnishes pulp for cellulose acetate made at Celanese's rayon yarn mills at Cumberland Mills, Md., Narrows, Va., and Rock Hill, S. C.

A. SNADDON, who was chief engineer for Australian Paper Manufacturers at the Botany mill, has gone to the Maryvale mill as chief engineer, being succeeded at Botany by E. V. CLAY, from the Fairfield mill.

SAMUEL DAUMAN, with the company 35 years, has been elected first vice president of Gottesman & Co., Inc., New York, D. Samuel Gottesman, president, announces.

# Protect your investment....

with a SMITH & WINCHESTER  
MODEL "E"  
UNDERCUT TRIMMER



Completely new and massive design, heavy duty construction, two-hand starting, illuminated index tape, and push button controls for electric power back gauge drive. (Gear guards have been removed to show main drive.)

YOUR investment in finished stock is large, particularly just before the trimming operation. Rejects and spoiled work resulting from faulty or inaccurate trimming are costly. Protect this investment with Smith & Winchester Model 'E' Trimmers designed to meet today's needs for fast production, hairline accuracy and safety. Look into all the new features of the Model 'E' Trimmer.

Write for Bulletin!

Paper Making Machinery  
Bag machinery for single and  
multi-wall bags of posted  
and sewed valve type  
Rotary Spot Cutters, bond or  
automatically controlled  
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FRASER COMPANIES LTD.

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| Washer Vats                                  | Head Box    | Overflow Chest |  |
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| SEMPLATE LININGS in all                      |             |                |  |
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When you have a lining or  
block construction problem,  
consult Stebbins.

Think twice before investing  
in linings—the wrong one can  
prove very costly—be safe, specify Stebbins  
—and have no regrets.



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AVAILABLE IN A BROAD RANGE OF CONSTRUCTIONS  
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DECKERS AND THICKENERS, FILTERS AND WASHERS

*Pacific Coast Supply Company*  
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## Looking for lower Calendering costs?

Try Butterworth Rolls in your Calender stack. See how easy it is to get smoother, more uniform paper surfaces... how easy it is to cut down production costs with fewer calendering delays.

Many of America's leading paper mills are getting extra hours of top-flight service from Butterworth Calender Rolls. They find that Butterworth Calender Rolls save costly production time and labor formerly lost during calender breakdowns.

Butterworth Calender Rolls are made of the finest materials available—long staple cotton free of foreign materials and first quality paper of high rag content. Pretested for strength, hardness and density before delivery. A special process locks the rolls on the shaft. Makes certain they can't slip. Can't come loose.

We make calender rolls for all types of calendering in every size to meet specifications. We can also refill your present rolls.

## Butterworth Calender Rolls

# Time IS MONEY...



**1st Printer:** Honestly, Collins, didn't you lose your shirt on that big broadside job you chiseled us out of a couple of months ago?

**2nd Printer:** We made a tidy profit and we did not chisel.

**1st Printer:** It takes a lot of time to run out a hundred thousand four-color sheets—and time is money at *our* shop.

**2nd Printer:** We *saved* time by using the right kind of paper. Color forms registered to a hair—inks dried without offsetting.

**1st Printer:** That paper must have been terribly high priced.

**2nd Printer:** It was priced low enough to get the order from some keen competition. The reason why it was low was the same as the reason our bid was low—SPEED.

They use Hamilton Felts at every press of the machine on which this paper is manufactured. These felts remove so much water that the sheet travels over the driers very fast. And time saved is money saved—at a paper mill as well as in a print shop.

From the thinnest tissue to the heaviest board, there is a Hamilton Felt that will do your work better, faster and at lower cost.

SHULER & BENNINGHOFEN, HAMILTON, OHIO

Miami  
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Mills  
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*Felts*      Established  
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**Spots before your eyes...**



**"THE BAUER STORY  
OF DIRT DISPERSION"**

One way to reduce the visibility of dirt is by attenuating it, as is done in some drycleaning establishments; probably also in laundering by the rinseless method!

The Bauer Pulp Refiner is a splendid machine for diffusing the dirt in paper stock. First, the vigorous beating action disintegrates all friable inclusions such as pieces of bark, pitch, shiners, shives, or clots of pulp. Second, the centrifugal action of the disks disperses the minute particles throughout the mass of stock. Thus the better formed finished tissue, paper, or board is virtually clean and dirt free.

This problem of dispersion is so interesting and important that our engineers have written a paper to tell you how the Bauer Pulp Refiner fits into the subject. Results of laboratory tests and mill experiences are cited.

You'll want a copy if you are troubled with formation or dirt troubles—or if you are meeting the problem with relatively cumbersome and expensive methods.

The disintegration and dispersion of dirt is incidental to the total behavior of Bauer Pulp Refiners. So far as we know, no one ever bought these machines expressly for dirt diffusion, but rather to obtain the over-all advantages of better and more economical pulp processing and/or stock refining. *Anyway, ask us to send you the treatise.* No obligation, of course.

**Bauer** PULP REFINERS

THE BAUER BROS. CO.

SPRINGFIELD 99, OHIO

Established 1878

October 1950

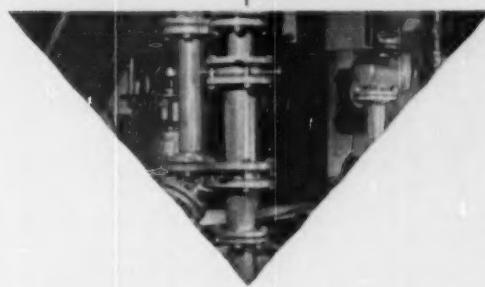
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LINED**

steel  
pipe

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immediately

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resists corrosion



Saran's unusual resistance to most corrosive chemicals and solvents plays an important part in the reduction of shutdowns and lost production! Saves time and labor!

Saran lined steel pipe is available in maximum lengths of 10 feet and in sizes from 1 to 6 inches inclusive. Also available are saran lined plug valves, Saunders type diaphragm valves, flanges, reducing flanges, flanged fittings, gaskets and fittings with union ends.

Write us today for further information concerning saran lined steel pipe and how it may help solve your production problems. Manufactured by The Dow Chemical Company, Bay City, Michigan, distributed nationally by Saran Lined Pipe Company.

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Seattle • Charleston, S. C.  
Tampa



**NEW OFFICERS AND EXECUTIVE BOARD ELECTED** at Western Forest Products Safety Conference, held in Longview, Wash. Left to right—G. A. Okerlund, Puget Sound Pulp & Timber Co., Bellingham, Wash.; W. M. Allison, B. C.

Lumber Manufacturers, Vancouver, B. C.; Los F. Kramer, Weyerhaeuser Timber Co., Enumclaw, Wash., treasurer-statistician; E. H. Crosby, chairman, Columbia Basin Loggers, Portland, Ore.; C. S. Houston, Weyerhaeuser Timber Co., Klamath Falls, Ore.; Robert M. Gilmore, Rayonier, Inc., Hoquiam, Wash.; Ned R. Gee, Oregon Lumber Co., Baker, Ore. Not in photo are T. E. North, vice-chairman Alaska Pine Co., Ltd., Vancouver, B. C.; Miles Murray, secretary, Crown Zellerbach Corp., Portland, Ore.



### Western Safety Meeting

Management's responsibility in safety matters, the need of leadership, effective organization and training—all these points were emphasized at a recent Western Forest Products Safety Conference in Longview, Wash.

Among pulp and paper mills, Longview Fibre Co. won the award for the best record in safety for 1949, awarded by Byron Oyster, safety director of Weyerhaeuser Timber Co. Weyerhaeuser won similar awards for fir logging and sawmills and Potlatch Forests, Inc., builders

of a new paper mill in Idaho, won it for pine logging.

Participants on the pulp and paper panel were W. J. Shelton, superintendent, Longview Fibre Co.; George La Husen, safety supervisor Crown Zellerbach Corp., West Linn, Ore.; Roy Baker, manager, Pulp Division, Weyerhaeuser Timber Co., Longview; Gordon Dubberley, safety director of B. C. Pulp and Paper Co., Woodfibre, B. C.; O. T. Defieux, plant engineer, Crown Zellerbach Corp., Camas, Wash.; and Ed Tucker, safety director of B. C. Pulp and Paper Co., Port Alice, B. C.



**FERDINAND SCHMITZ, JR.**, who has purchased Berger Engineering Co., Seattle, from the Knute Berger Estate, and becomes its President. Mr. Schmitz was former Superintendent of the Rainier Pulp Co., at Shelton, Wash., predecessor to Rayonier, but for the past 13 years he was Vice President and Manager of Pacific Car & Foundry Co. Berger Engineering developed the mammoth bridge crane, with probably the largest grapples ever made for the purpose, which lifts 30 tons of logs in one swoop to a 50-ft. high dock at Crown Zellerbach's Camas, Wash., mill (PULP & PAPER, Dec. 1949, page 44). Marc D. Treoyer continues as Berger's Vice Pres. and Gen. Mgr.

# VALVES THAT DON'T LEAK!

No matter what flows through your pipeline, the valves on that line WON'T LEAK if they're DeZurik Easy-Operating Plug Valves. DeZurik rubber-faced plugs seal dead-shut on anything from gas to slurries—they do it time after time through long, tough usage, without lubrication or adjustment—and with positive savings in time and money.

A PIPE-DREAM FOR ENGINEERS

Complete free catalog ready for you.

**DeZURIK SHOWER CO.**  
SARRELL, MINN.

COMPLETELY PACKLESS  
SELF-LUBRICATING  
SELF-ADJUSTING  
SELF-ALIGNING

## Johnson Rotary Pressure Joints

Write for catalog showing sizes and styles for all needs.

Installation in a midwestern mill — some of the 562 Johnson Joints purchased by this company.

The JOHNSON CORPORATION, 849 Wood Street, Three Rivers, Michigan



## LONGER KNIFE LIFE

WITH THE NEW ROGERS SERIES 220 GRINDER

No waste grinding . . . fewer grinds necessary with this Rogers "husky." Heavy construction gives vibrationless action for precision grinding of doctor blades, paper cutting and all other straight knives. Faster, motor driven table speeds for rough grind . . . a light, but steady touch for finish grind. Many sizes from 78" to 220" and larger. America's oldest manufacturer of straight and circular knife and slitter grinders. For further information write:



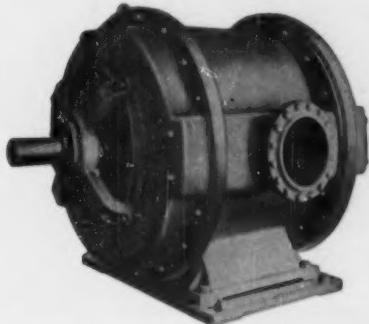
*A Leader in Grinding Equipment Since 1867*

**SAMUEL C. ROGERS & CO.**

223 Dutton Avenue

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## ONLY NASH VACUUM PUMPS HAVE ALL THESE FEATURES



One Moving Element. Non-pulsating Vacuum. No Internal Wearing Parts. No Internal Lubrication. Handles Liquid With Air. No Expert Attendance. Constant Efficiency. Low Maintenance Cost.

**NASH ENGINEERING COMPANY**  
SOUTH NORWALK, CONNECTICUT, U. S. A.

October 1950

## POTDEVIN

multi-wall heavy duty  
**BAG MAKING  
MACHINERY**



Multi-wall cement tubes for producing up to 6-ply tubes.



POTDEVIN completely equips the modern bag plant for high speed production of 2, 3, 4, 5, and 6 wall heavy-duty bags. Multiwall valve bags with open ends or open-mouth bags with pasted self-opening square type bottoms—sack type bottoms—sewed-end type bottoms—all can be made with POTDEVIN equipment.

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Designers and manufacturers since 1893 of equipment for Bag Making, Printing, Coating, Gluing and Labeling



## ACID STORAGE TANKS OF STAINLESS CLAD



This new solution to one of the pulp industry's persistent problems was worked out with the help of our engineering staff and skilled craftsmen.

## PUGET SOUND SHEET METAL WORKS

Fabricators in all metals, 30 ga. to 1 in.

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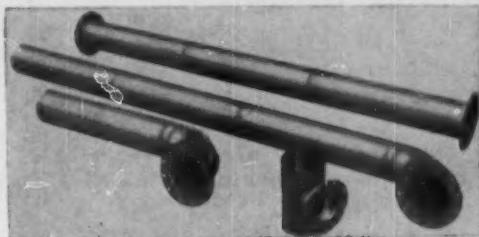
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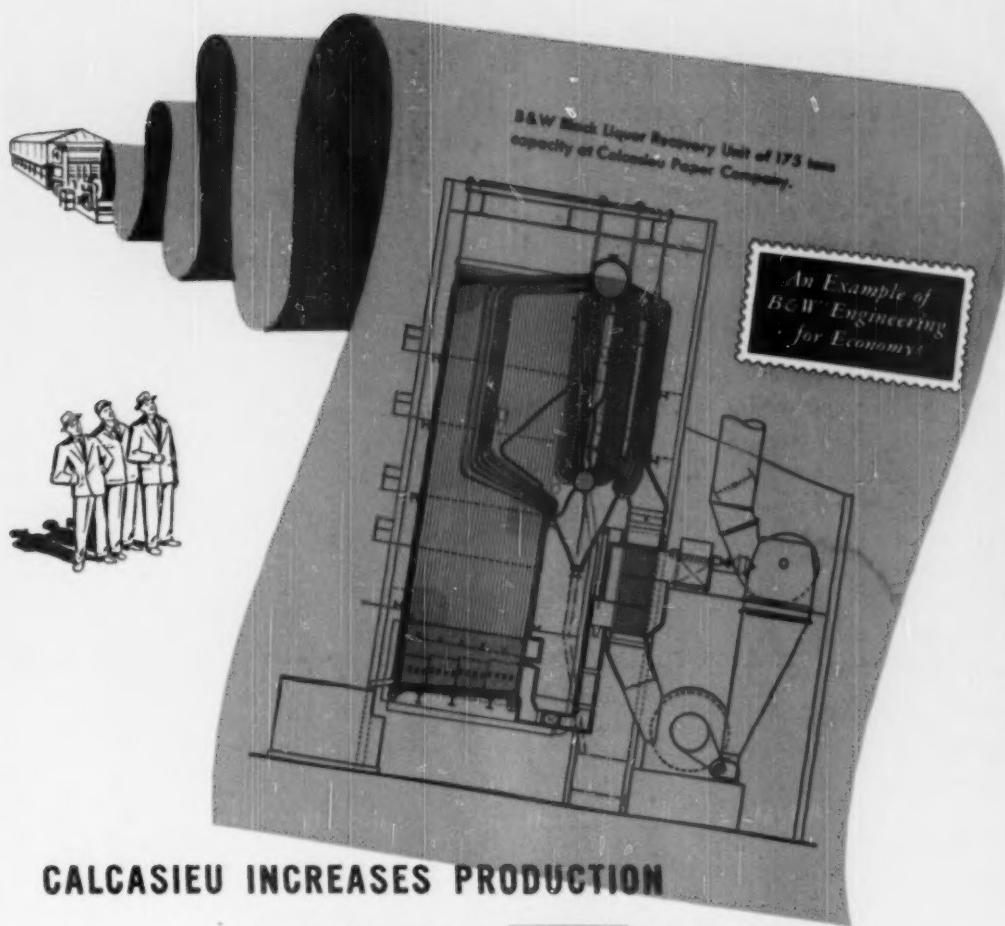
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**Advertising Index**

|   |     |   |           |  |           |
|---|-----|---|-----------|--|-----------|
| Alaskan Copper Works  | 96  | Foster Wheeler Co.  | 49        | Northwest Lead Co.                     | 107       |
| American Brass Co.  | 30  | Foxboro Company   | 9         | Norton, Arthur J.                      | 107       |
| American Potash & Chemical Corp.  | 104 | Freeport Sulphur Co.                                      | 26        | Oliver Corp.                           | 83        |
| Appleton Machine Co.  | 7   | Fuller Company  | 14        | Pacific Car & Foundry Co.              | 79        |
| Appleton Woolen Mills   | 104 | General Chemical Div.,<br>Allied Chemical & Dye Corp.     | 53        | Pacific Coast Supply Co.               | 99        |
| Babcock & Wilcox Co. Inside Back Cover  |     | General Electric Co.                                      | 21 and 25 | Parsons & Whittemore, Inc.             | 18        |
| Barrett Division, Allied Chemical &<br>Dye Corp.  | 69  | Gordon, Walter S., Jr.                                    | 107       | Pennsylvania Salt Mfg. Co.             |           |
| Bauer Bros. Co.   | 101 | Gottesman & Co., Inc.                                     | 32        | of Washington                          | 27        |
| Beloit Iron Works   | 39  | Guest & Sons, C. M.                                       | 106       | Perkins-Goodwin Co. Outside Back Cover |           |
| Bingham Pump Co.  | 65  | Hercules Powder Co. Inside Front Cover                    |           | Pfeifer and Shultz                     | 107       |
| Bird Machine Co.  | 37  | Hermann Mfg. Co.  | 105       | Potdevin Machine Co.                   | 103       |
| Black-Clawson Co. Divisions:<br>Shartle Bros. Machine Co., Dilts<br>Machine Works, Kohler Systems | 91  | Hotel Frye  | 104       | Powell River Sales Co.                 | 26        |
| B. C. Bridge & Dredging Co.   | 108 | Huyck & Sons, F. C.                                       | 77        | Puget Sound Pulp & Timber Co.          | 73        |
| Bristol Company   | 2   | International Nickel Co.                                  | 16        | Puget Sound Sheet Metal Works          | 103       |
| Brown-Hutchinson Iron Works   | 105 | Janssen Co., G. D.  | 106       | Pulp Bleaching Co.                     | 107       |
| Bulkeley, Dunton Organization   | 59  | Johnson Corp.   | 102       | Pusey & Jones Corp.                    | 74 and 75 |
| Butterworth & Sons Co., H.  | 100 | Johnson & Co., Alvin H.                                   | 106       | Rambo, W. H.                           | 107       |
| Calkin, John B.   | 107 | Jones & Sons Co., E. D.                                   | 11        | Rayonier, Incorporated                 | 15        |
| Cameron Machine Co.   | 1   | Kidder Press Co., Inc.                                    | 71        | Rice Barton Research Corp.             | 4         |
| Chemical Linings, Inc.  | 105 | Knox Woolen Co.   | 104       | Robert & Co. Associates                | 76        |
| Chemipulp Process, Inc.   | 106 | Langston Co., Samuel M.                                   | 89        | Roehlen Engraving Works                | 106       |
| Chromium Corp. of America   | 107 | Laurence Co., Paul A.                                     | 107       | Rogers & Co., S. C.                    | 103       |
| Classified Advertising  | 94  | Link-Belt Co.   | 23        | Ross Engineering Corp., J. O.          | 67        |
| Combustion Engineering—<br>Superheater, Inc.  | 22  | Lyddon & Co., Inc.  | 18        | Rust Engineering Co.                   | 107       |
| Crane Company   | 8   | Main, Inc., Chas T.                                       | 106       | Sandwell, P. R.                        | 107       |
| Crucible Steel Co. (Trent Tube Div.)  | 87  | Mason-Neilan Regulator Co.                                | 20        | Shartle Bros. Machine Co.              | 91        |
| Curlator Corp.  | 47  | Merrick Scale Mfg. Co.                                    | 94        | Shuler & Benninghofen                  | 100       |
| DeZurik Shower Co.  | 102 | Metcalfe & Co., James I.                                  | 107       | Sirrine Co., J. E.                     | 107       |
| Dilts Machine Works   | 91  | Minneapolis-Honeywell Regulator Co.                       | 55        | Smith & Winchester Mfg. Co.            | 98        |
| Dorr Company  | 19  | Moore & White Co.   | 61        | Smythe, Ray                            | 106       |
| Dow Chemical Co.  | 101 | Morey Paper Mill Supply Co.                               | 6         | Soundview Pulp Co.                     | 93        |
| Downington Mfg. Co.   | 17  | Nash Engineering Co.                                      | 103       | Sprout Waldron & Co.                   | 5         |
| Eastwood-Nalley Corp.   | 72  | National Aniline Division,<br>Allied Chemical & Dye Corp. | 21        | Stadler, Hurter & Co.                  | 107       |
| Ederer Engineering Co.  | 95  | Newport News Shipbuilding &<br>Drydock Co.                | 12        | Stebbins Engineering Corp.             | 99        |
| Electric Steel Foundry Co.  | 29  | Noble & Wood Machine Co.                                  | 43        | Stein, Hall & Co.                      | 10        |
| Fabri-Valve Co. of America  | 104 | NOFCO Chemical Co.  | 13        | Stevenson & Rubens                     | 106       |
|   |     | Northwest Copper Works                                    | 104       | Summer Iron Works                      | 85        |
|   |     | Northwest Filter Co.                                      | 106       | Sutherland Refiner Corp.               | 63        |
|   |     |   |           | Texas Gulf Sulphur Co.                 | 3         |
|   |     |   |           | Thev Shovel Co.                        | 81        |
|   |     |   |           | Tri-Clover Machine Co.                 | 97        |
|   |     |   |           | Warren Steam Pump Co.                  | 41        |
|   |     |   |           | Western Precipitation Corp.            | 31        |
|   |     |   |           | Westinghouse Electric Corp.            | 56 and 57 |
|   |     |   |           | Weyerhaeuser Timber Co.                | 105       |
|   |     |   |           | Woodboss, Inc.                         | 105       |



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